MARKET ORGANIZATION AND PRACTICES FOR POTATOES IN THE HASTINGS AREA OF FLORIDA

By

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CHAPTER I

INTRODUCTION

Recent Changes in the Potato Industry in the United States

All segments of the Irish potato industry in the United States have undergone rapid changes and adjustments in recent years. Concurrently developing changes in different segments of the industry have added to the complexity and uncertainty involved in the production and marketing of potatoes.

In the consumption segment, the major change has been the swiftly expanding demand for potatoes in processed forms. Utilization of potatoes in each of the processed products increased substantially during the period 1953 to 1959 (Table 1). The total quantity used in all processed products increased from 39 million bushels in 1953 to 88 million bushels in 1959. This was a 126 percent increase and was reflected in the per capita consumption of processed potato products which more than doubled from 1953 to 1959. Per capita consumption in fresh form decreased from 96.9 pounds in 1953 to 79.0 pounds in 1959. Total per capita consumption was relatively stable over the 7-year period and averaged about 107 pounds per year.

Impressive changes have taken place in the marketing and distribution segment of the potato industry. The merger movement in the retail food distribution industry has led to further concentration of food store sales and purchases. Between 1955 and 1958, about 2,650

TABLE 1.--Utilization of Irish Potatoes in Specified Forms of Processed Products and Per Capita Consumption of Fresh and Processed Potato Food Products, United States, Crop Years 1953-1959.

Use classification	Crop year[a] 1953	1954	1955	1956	1957	1958	1959
				(Million bushels)			
Processed products:[b]							
Flour	1.6	2.6	2.9	3.0	2.0	3.1	2.5
Dehydrated	3.4	3.0	4.7	5.0	6.8	15.1	17.0
Canned	1.3	0.8	1.3	1.4	1.6	1.6	1.5
Hash, stews, soup	1.0	0.8	0.8	1.3	2.4	2.5	2.5
Frozen french fried	2.7	3.6	7.7	9.0	8.0	12.6	17.5
Potato chips	29.0	32.0	39.3	45.0	45.0	47.0	47.0
Total	39.0	42.8	56.7	64.7	65.8	81.9	88.0
				(Pounds)			
Civilian per capita consumption for food:							
Processed forms	14.8	15.9	20.7	23.5	23.4	28.7	31.0
Fresh form	96.9	89.0	83.3	82.7	81.0	78.8	79.0
Total	111.7	104.9	104.0	106.2	104.4	107.5	110.0

[a] May through April.

[b] Industry estimates.

Source: Potato Utilization Tables, furnished by The National Potato Council, 542 Munsey Building, Washington 4, D. C.

locally operated food stores with an estimated annual sales volume of nearly $3 billion were consolidated through mergers.[1] This trend toward large scale operations in food distribution has been accompanied by greater emphasis on quality control and increased demand for consumer packs ready for retail display.

[1] The Merger Movement in Retail Food Distribution (The National Association of Retail Grocers, Chicago, 1959) p. 1.

The Problem and Purpose of Study

Factors affecting the national potato industry have had their impact on the potato industry in the Hastings area.[2] The swiftly expanded demand for potatoes used in making potato chips and the need of chippers for a supply of early potatoes have been especially important. During the period of the rapid growth of the processing industry, sales of potatoes from the Hastings area to processors increased greatly. By the 1958 season, more than half of the area's production was being sold to processors.

Growers in the Hastings area experienced unusually good financial returns from 1952 to 1956 (Table 2). This was due in part to the increase in demand from processors. The area also had a number of years of good yields and high quality potatoes. A series of unusual circumstances also resulted in a greater demand than would have been true otherwise for the Hastings' crop. Prior to the 1944-45 season, the value of the spring potato crop in Florida seldom exceeded $3 million. The average income during the five years, 1944-45 to 1948-49, was $5,043,000. The Korean War resulted in an unusual demand for potatoes in 1952. The average price for the spring crop in Florida was $4.00 per hundredweight. The value of the crop was $12,189,000.

In the fall of 1954, hurricane Hazel hit the Northeast section of the United States. This storm badly damaged the late crop potatoes and made them of poor quality for use in making potato chips. This resulted in an increase in demand by potato chippers for the Hastings

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[2] The Hastings area is defined as the combined potato producing area of three adjoining counties; Putnam, St. Johns, and Flagler in Northeast Florida.

TABLE 2.--Acreage, Yield, Price per Unit and Value of Spring Potatoes, Hastings Area, Florida, 1929-1960[a].

Season[b]	Acres harvested	Yield per acre	Total production	Price per cwt.	Value per acre harvested	Total value
		(cwts)	(1,000 cwts.)	(dollars)	(dollars)	(1,000 dollars)
5-season average						
1929-30 to 1933-34	19,680	66	1,299	1.93	127	2,507
1934-35 to 1938-39	19,040	65	1,238	1.73	112	2,142
1939-40 to 1943-44	17,010	83	1,412	2.15	178	3,036
1944-45 to 1948-49	15,820	96	1,519	3.32	319	5,043
1949-50	14,800	127	1,881	2.75	350	5,175
1950-51	15,700	158	2,474	2.72	428	6,724
1951-52	19,900	153	3,048	4.00	613	12,189
1952-53	26,500	142	3,541	2.39	319	8,449
1953-54	21,200	175	3,716	2.64	462	9,802
1954-55	25,200	150	3,776	3.93	590	14,856
1955-56	25,700	156	3,998	3.58	557	14,315
1956-57	31,300	140	4,116	1.84	242	7,576
1957-58	30,900	151	4,286	2.00	278	8,588
1958-59	25,100	123	2,896	3.11	360	9,027
1959-60	27,400	126	3,448	3.69	464	12,720

[a] The Hastings area accounts for about 90 percent of the production of Florida Spring crop potatoes.

[b] The 5-season averages were derived from Table 1, page 9, Florida Agricultural Experiment Station Bulletin 472, September 1950. Data for individual seasons, 1949-50 through 1959-60 were obtained from Volumes XIV and XVI, Florida Vegetable Crops.

crop in the spring of 1955. A late spring freeze in Alabama and South Carolina also reduced supplies of early potatoes in these states. The average price for spring crop potatoes in Florida in the 1954-55 season was $3.93 per hundredweight. The value of the crop set a record at $14,856,000. Price and income were also high in the 1955-56 season although there appeared to have been no particularly abnormal situation affecting the market for potatoes.

Over the years that incomes were high many changes occurred in the

potato industry in the Hastings area, especially in market structure and practices in marketing potatoes. Many growers paid off debts and also increased the size of their holdings. New growers were attracted to the area. Growers used their added income to improve their farms, purchase new equipment and in many cases invest in new packing facilities. Since the marketing of potatoes did not seem to be a problem, many growers pulled away from their established sales agencies to save the commission they were paying. A number of new sales agencies were started in the area. The keen demand for potatoes from processors, together with somewhat less exacting requirements as to packing and grading, was thought to have lowered the quality of potatoes packed. The introduction of contract growing by processors also affected the normal channels through which a part of the crop was marketed.

The acreage of potatoes planted in the 1956-57 season was about 20 percent more than the acreage during the 1952-56 period. This increase was maintained in the 1957-58 season. Less favorable growing conditions during these years resulted in a decreased yield per acre and also a lower quality product. These factors together with a more normal marketing situation for Hastings potatoes resulted in a substantial decrease in returns. The average price for spring crop potatoes was $1.84 per hundredweight in the 1956-57 season and $2.00 in the 1957-58 season. The value of the crop was $7,576,000 and $8,588,000 in the two years, respectively.

The low returns in the 1956-57 and 1957-58 seasons seemed to have come as a shock to many people in the industry. Numerous explanations were given as to the causes of the low returns without too much emphasis being placed on the lower quality product and increased volume of

potatoes that was being placed on the market. Many growers and shippers felt that many of the changes which had occurred in the area since 1952 had adversely affected the market for potatoes. However, they believed additional changes in the marketing structure were needed to alleviate the disastrous price situation. They were of the opinion that the increase in number of selling agencies had weakened the area's market position and had resulted in prices lower than would have occurred otherwise.

Leaders in the industry began to examine various ways by which the industry might acquire a stronger and more unified marketing position. Two suggestions to which particular attention were given were (1) a Federal marketing-order and agreement program and (2) a Central Sales agency. In either case, one of the major difficulties at the time appeared to be the lack of reliable information about general conditions and practices in the area necessary to evaluate the proposed program.

Group action was hampered by the diversity of opinions and attitudes. In many cases accurate or adequate information was not available to serve as a basis for reconciling differences or arriving at correct conclusions. Grower and shipper representatives requested that a study be made for the purpose of providing the industry with more adequate basic information relative to recent changes in marketing and production practices. This study was outlined with the general purpose to describe and evaluate recent important changes in the market organization and practices for potatoes produced in the Hastings area. The specific objectives of the study were:

1. To describe and evaluate changes since 1953 in the amount of potatoes going to processors, market organization, and grower and shipper practices.
2. To ascertain the opinions and attitudes of growers and shippers relative to market organization and practices.
3. To evaluate the probable effects of some alternative proposals for improving the marketing of potatoes in the Hastings area.

Review of Literature

Much research has been done in the general area of potato marketing.[3] Most of these studies relate to the marketing of late potatoes. Hence, they have limited application to early potatoes in general. Furthermore, they could not be expected to supply the comprehensive information needed to fulfill the objectives of this study.

Some research has been directly related to the Hastings area, or to potatoes produced there. McKineley made an economic study of 294 farms in the Hastings area for the 1925 crop year.[4] Information relative to farm organization, investment, costs, and returns was reported.

Brooke and Greene summarized statistical data on production, shipments and prices of Florida potatoes.[5] Trends in acreage and yields

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[3] About 645 items of potato research are listed by Hemphill and Martin in, A Selected Bibliography of Potato Marketing Research, 1930-1950 (Fargo, North Dakota Agricultural Experiment Station Bulletin 373, 1952).

Miller and Worley, Recent Literature on Prices, Quality and Distribution of Late Potatoes (University of Nebraska, Department of Agricultural Economics, Report No. 14, 1959) list 328 items covering the period January 1956 to June 1958. Many of these items were articles in the various potato industry periodicals.

[4] Bruce McKineley, An Economic Study of Potato Farming in the Hastings Area for the Crop Year 1925 (Florida Agricultural Experiment Station Bulletin 193, 1928).

[5] D. L. Brooke and R. E. L. Greene, Statistics on Production Shipments, and Prices of Florida Irish Potatoes (Florida Agricultural Experiment Station, Agricultural Economics Mimeo Report 59-8, February, 1959).

were noted for the period 1920 to 1958. The relation of prices of Florida potatoes to production, shipments, U. S. potato prices, and parity price was also considered.

Hamilton and Brooker made a business analysis of the Hastings Potato Growers' Association covering its activities from the date of organization in 1922 through the 1933-34 season.[6] Profit and loss statements covering each of the 12 years were included as well as detailed descriptions of marketing operations, purchase of supplies, and production credit activities.

Brooke and Spurlock presented labor and material requirements supplemented by data on costs of production and returns for the 1946-47, 1947-48, and 1948-49 seasons.[7]

Podany studied costs of marketing Florida potatoes for the 1956 marketing season.[8] Grower returns were found to be highest on f. o. b. shipping point sales, second highest on delivered sales, and lowest on consignment sales. Transportation charges from Florida to Chicago and New York were higher by truck than by rail.

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[6] H. G. Hamilton and M. A. Brooker, Farmer Cooperative Associations in Florida, Part III. Business Analysis of the Hastings Potato Growers' Association (Florida Agricultural Experiment Station Bulletin 276, March 1935).

[7] D. L. Brooke and A. H. Spurlock, Labor and Material Requirements, Costs of Production and Returns on Florida Irish Potatoes (Florida Agricultural Experiment Station Bulletin 472, September 1950).

[8] Joseph C. Podany, Costs of Marketing Florida Potatoes, Packinghouse to Wholesaler Receiver (United States Department of Agriculture, AMS, Marketing Research Report No. 233, August 1958).

Greene studied consumer acceptance of waxed and colored potatoes at the retail level.[9] Store tests were conducted in 12 retail stores in Baltimore, Maryland in 1951. Sales of waxed and unwaxed potatoes were compared. Two varieties of red-skinned potatoes from South Florida were used in these tests.[10] The ratio of sales of waxed to unwaxed potatoes was found to be about 4 to 1.

Greene, Johnson, and Barnes made comparisons of grade qualities of potatoes in selected retail stores in 1950.[11] The study was conducted in Pittsburgh, Pennsylvania and covered the period March 1 to July 15, 1950. A total of 1,342 samples from displays of new-crop potatoes were analyzed for external and internal grade defects. Florida was listed as the state of origin for 485 of the 1,342 samples. The Sebago variety accounted for 62 of the 485 samples of Florida potatoes.[12] When compared with four other varieties of new-crop potatoes, the Sebago variety was the second lowest in terms of the total number of grade defects.

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[9] R. E. L. Greene, Consumer Acceptance of Waxed and Colored Potatoes (Florida Agricultural Experiment Station, Southern Cooperative Series Bulletin 22, February 1952).

[10] Red-skinned varieties of Irish potatoes constitute only a small proportion of the total potato production in the Hastings area.

[11] R. E. L. Greene, J. M. Johnson, and R. C. Barnes, Grade Qualities of Potatoes in Selected Retail Stores in Pittsburgh, Pennsylvania, 1950 (Florida Agricultural Experiment Station, Southern Cooperative Series Bulletin 24, June 1952).

[12] It is assumed that most of these 62 samples of Sebago potatoes were produced in the Hastings area since this area accounts for most of Florida's total output of Sebago potatoes. These 62 samples accounted for 97 percent of all samples of Sebago potatoes analyzed.

Norton, Greene, and Kushman studied the use of equipment for mechanical harvesting and handling of Irish potatoes.[13] The authors concluded that mechanical harvesting equipment, operated with reasonable efficiency, could reduce the cost of harvesting and handling potatoes. Compared with the conventional harvesting method, the amount of probable cost reduction was estimated as 5 to 10 cents per 100-pound packed bag. The amount of physical damage to potatoes was not increased by the use of mechanical harvesting equipment when such equipment was carefully operated and packinghouses were properly equipped to handle potatoes received in bulk.

Greene, Kushman, and Spurlock studied harvesting and handling potatoes with mechanical equipment under 1954 conditions in the Hastings area.[14] The cost of digging potatoes and delivering them to the washer conveyor belt at the plant was estimated for three methods of harvesting.[15] Harvesting cost was estimated to be 24.3

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[13] J. S. Norton, R. E. L. Greene, and L. J. Kushman, Equipment for Mechanical Harvesting and Handling of Irish Potatoes in the Southeast (Florida Agricultural Experiment Station, Bulletin 579, November 1956).

[14] R. E. L. Greene, L. J. Kushman, and H.C. Spurlock, An Analysis of Quality and Cost of Harvesting and Handling Potatoes with Mechanical Equipment (Florida Agricultural Experiment Station Bulletin 612, October 1959).

[15] The three methods of harvesting are as follows: (1) The conventional method, which consists of tractor drawn diggers which uproot the potatoes and deposit them back on the ground. Field crews pick the potatoes up by hand and put them in field boxes or bags. These containers are hauled to the packing plant on flat bed trucks. All loading and unloading is manual. (2) The completely mechanized method which employs the use of mechanical equipment in both harvesting and handling. The mechanical diggers also load the potatoes into bulk bodies mounted on trucks or trailers. At the packing plant, they are unloaded by means of a conveyor in the bottom of the bulk bodies. (3) The partially mechanized method which refers to the use of mechanical equipment for some part of the harvesting operation and manual labor for other parts. For instance, the potatoes may be dug by a harvester which places them in field containers which are in turn manually loaded into trucks and manually unloaded at the packing plant.

cents per packed hundredweight with the completely mechanized method. This was 2.8 cents less per hundredweight than the cost estimated for the conventional method and about 1.6 cents less than that estimated for the partially mechanized method.

Capel, Greene, and Kushman studied packing costs and grading efficiency from a sample of potato packinghouses.[16] Ten of the sample packinghouses were located in the Hastings area. The average total cost of packing size A potatoes in the Hastings packinghouses in 1956 was 36 cents per 100-pound bag compared to 46 cents for two 50-pound bags. This was somewhat lower than comparable data on packing cost in Alabama in 1957. The cost of packing 50-pound bags was also lower in the Hastings plants than in the South Florida plants studied.

Capel and Greene analyzed costs of packing potatoes in 10-pound consumer packages.[17] Cost of packing 10-pound bags by four different methods were compared with the cost of packing in 100-pound bags. The extra cost involved in packing 10-pound bags was estimated to range between 50 and 85 cents per hundredweight in excess of the cost of packing a 100-pound bag, depending on the annual volume of 10-pound bags packed.

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[16] George L. Capel, R. E. L. Greene, and L. J. Kushman, Packing Costs and Grading Efficiency in Florida and Alabama Potato Packinghouses (Florida Agricultural Experiment Station, Agricultural Economics Mimeo Report No. 59-7, December 1958).

[17] G. L. Capel and R. E. L. Greene, An Analysis of Costs for Packing Potatoes in 10-pound Bags in the Southeast (Florida Agricultural Experiment Station, Agricultural Economics Mimeo Report No. 60-6, December 1959).

The research indicated above has answered some important questions relative to the Hastings area potato industry. However, many questions remain unanswered. The purpose of this study is to consider some of these unanswered questions.

Relative Importance of Potato Production in Florida and the Hastings Area

Florida

Production of potatoes in Florida was 7,065,000 hundredweights in 1956-57, or 2.9 percent of total United States production. During the period, 1935-39, Florida produced less than 1 percent of the nation's supply.[18] Considering the time of year in which Florida potatoes enter the market, Florida's production may be more significant than the above data indicate. Almost the entire domestic supply of new potatoes from December through April come from Florida. The average annual total value of Florida Irish potatoes was almost $20 million during the 1954-55 to 1957-58 period.[19] Acreage harvested annually has about doubled since 1950. Florida's winter crop potatoes, most of which are marketed from December through March, are produced in the southern part of the state. Spring crop potatoes, marketed from April through June, are produced in the northern part of the state. The spring crop makes up about 60 percent of Florida's annual potato acreage.

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[18] Brooke and Greene, Statistics on Production, Shipments, and Prices, op. cit., p. 5.

[19] Ibid., p. 3.

Hastings Area

The Hastings potato producing area is composed of St. Johns, Flagler, and Putnam counties in Northeast Florida (Figure 1). Normally, about one-half of the total production of potatoes is in St. Johns county. The remainder is about equally divided between Putnam and Flagler counties.

Approximately 85 to 90 percent of Florida's spring crop potato acreage is located in the Hastings area. The value of potatoes harvested constituted 74.7, 78.0, and 31.4 percent of the total value of all farm products sold in St. Johns, Flagler, and Putnam counties, respectively, in 1954 (Table 3).

TABLE 3.--Value of All Farm Products Sold, Value of Potatoes Harvested, and Percent Value of Potatoes Harvested was of the Value of all Farm Products Sold, by Counties, Hastings Area, Florida, 1954.

County	Value of all farm products sold[a]	Value of potatoes harvested[b]	Value of potatoes harvested as a percent of value of all farm products sold
	(Dollars)	(Dollars)	(Percent)
St. Johns	7,123,525	5,322,525	74.7
Flagler	2,054,934	1,602,720	78.0
Putnam	4,635,356	1,454,055	31.4
Total	13,813,815	8,379,300	60.7

[a] Taken from 1954 Census of Agriculture, Vol. I, Counties and State Economic Areas, Part 18, Florida.

[b] Calculated from production data and average prices reported in Florida Vegetable Crops, Vol. X, 1954.

Figure 1.--Location of Hastings Potato Producing Area, Florida, 1958.

Research Procedure

To provide data of the nature required for this study, there were two primary groups, growers and handlers from which information could be obtained.[20] The grower population was defined as the aggregate of all individuals and organizations in the Hastings area that produced potatoes for market during the 1957-58 season. Information relating to changes in production, harvesting, financing, packing, and marketing was obtained from this group. Opinions of growers were also obtained relative to certain production and marketing practices.

The handler population was defined as the aggregate of all persons or agencies, within or outside the Hastings area, that sold potatoes for one or more Hastings area producers during the 1957-58 season. The main information obtained from this group concerned the distribution of sales by grade and size, by type of buyer, and by type of market.

Grower Sample

Resources available for the study were estimated to be sufficient for including 90 to 100 producers in the grower sample. It was assumed that cost of obtaining information would not differ significantly among producers with different size potato enterprises. A list of growers was obtained for each county from the respective county agricultural agent. These lists contained the names, addresses, and estimated 1957-58 potato acreage for all known growers in the Hastings area.

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[20] "Handler" is the term most commonly used in the Hastings area to designate those who perform the sales agent function. The term "grower-handler" is used to designate those producers who perform the sales agent function themselves.

The grower population was stratified into three size groups on the basis of 1957-58 potato acreages. The acreage groups were defined as, (a) less than 100 acres, (b) 100 to 249 acres, and (c) 250 acres or more. Each size group accounted for about one-third of the total potato acreage (Table 4). Hereafter, these size groups will be referred to as small, medium, and large farms, respectively.

TABLE 4.--Number and Percent of Growers, Number and Percent of Acreage, and Range in Potato Acreage, by Size of Farm, Hastings Area, Florida, 1958.

Size of farm	Growers		Acres		
	Number	Percent	Number	Percent	Range
Small	183	68.0	8,467	31.8	5- 93
Medium	61	22.7	8,749	32.9	100-227
Large	25	9.3	9,403	35.3	255-632
Total	269	100.0	26,619	100.0	5-632

Different sampling rates were used to allocate the sample among the three size of farm groups (Table 5). Although the Hastings area is a highly specialized production area, considerable variation among growers in the number of acres produced was evidenced by a population range of 5 to 632 acres. The population of growers was extremely skewed with over two-thirds of the producers growing less than 100 acres of potatoes and less than one-tenth with 250 acres or more. A disproportionate sampling rate was desirable in view of the inverse relationship between the number of growers and the variation in acreage between size groups. With such a population distribution, the probability of obtaining a representative sample is increased by sampling at a higher rate in the group or stratum which contains the greatest variation in size (acreage) and the smallest number of sampling units (farms).

TABLE 5.--Sample Allocation and Related Information for Potato Producers by Size of Farm, Hastings Area, Florida, 1958.

Item	Size of farm			
	Small	Medium	Large	All farms
Number of growers:				
Total	183	61	25	269
In sample	52	24	15	91
Sampling fraction	0.28	0.39	0.60	0.34
Number of acres:				
Total	8,467	8,749	9,403	26,619
In sample	2,360	3,415	5,927	11,702
Average number of acres per grower:				
All growers	46	143	376	99
In sample	45	142	395	129

A systematic random process was used to select sample growers from each size group. Growers were arrayed by counties in each size group in order that county representation in the sample would be proportionate to the total number of growers in the county. Alternate growers, selected by a random process, were designated for inclusion in the sample in cases where it proved impractical to obtain information from the original sample growers. A total of 52, 25, and 16 records from small, medium, and large farms, respectively, were available for the analyses.

Handler Sample[21]

A probability sample of handlers could not be obtained since a complete list was not available. A reasonably complete list could have been obtained only by interviewing each of the 269 growers in the area.

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[21] See Appendix A and B for sample copies of the Grower and Handler Questionnaires, respectively. The word "seller" as used in Appendix B is synonymous with the term "handler" used in this paper.

The difficulty of making contact with some handlers would have presented a major problem even if a complete list had been acquired. Itinerant handlers operated to some extent during the marketing season. Contacting such handlers for information would not have been practical in most cases.

A list of handlers was prepared from information obtained from the sample growers (Table 6). Although this list did not include all

TABLE 6.--Number of Handlers Involved in Disposing of the 1957-58 Crop of Sample Growers and Number of Growers Using Each Handler, Hastings Area, Florida, 1958.

Handler number	Number of growers using handler[a]
1	28
2	16
3	13
4	8
5	4
6	3
7	3
8	2
9	2
10	2
11	1
12	1
13	1
14	1
15	1
16	1
17	1
18	1
19	1
20	1
21	1
Total[b]	92

[a] Some growers used more than one handler.

[b] Does not include 11 grower-handlers who sold all of their own potatoes.

handlers in the Hastings area in 1958, it was used as the basis for selecting handlers to be interviewed. The handler sample was arbitrarily selected to include only the first seven handlers in Table 6. These appeared to be the most important handlers in the area. Sales of these seven handlers, combined with sales made by individual growers, constituted about 74 percent of all sales from the Hastings area in 1958. It was assumed that the added information which might have been derived by including the other listed handlers in the sample would not have justified the added expenditure of resources.

Method of Obtaining Data

Data were obtained from growers by personal interview. A questionnaire was prepared and field tested during the summer of 1958.[22] Grower interviewing was carried on during the period of October 1958 to February 1959.

Data from the seven handlers were obtained by personal interview and from pertinent firm records. Opinions and attitudes were given by firm owners or managers. Data on distribution of sales by grade and size were taken directly from 1957 and 1958 sales invoices. Buyers listed on invoices were classified by the firm managers according to type.[23] Firm managers, through repeated dealings and long acquaintance with buyers, were also able to identify those who purchased for the fresh market, the processed market, or a combination

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[22] See footnote 21.

[23] Types of buyers consisted of retailers, processors, wholesale receivers, local buying brokers, and others.

of the two. In cases where a buyer purchased for both markets, the firm manager was asked to estimate the distribution of potatoes between the two markets.

Method of Analysis

Data from the grower sample were analyzed to show comparisons between the three size groups throughout the study. Comparisons were made between groups relative to changes in production, harvesting, packing, financing, contracting, and marketing for the period 1953-54 to 1957-58. Opinions and attitudes existing at the time of interview are presented by size group.

Group weights were calculated for use in expanding sample results to obtain population estimates for certain characteristics.[24] These same group weights were used for estimating population totals for the four seasons prior to the 1957-58 season on which the sample was based.[25]

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[24] Group weights referred to are the reciprocals of the sampling fraction for the respective size groups. The sampling fraction was 0.284 for small farms, 0.410 for medium farms, and 0.640 for large farms. The reciprocals for these fractions yield 3.52, 2.44, and 1.56 as appropriate group weights for the small, medium, and large farms, respectively. Thus, a population total may be estimated by $W_1S + W_2M + W_3L$, where S, M, and L denote group totals for the small, medium, and large farms, respectively, and W_1, W_2, and W_3 denote appropriate group weights.

[25] It is recognized that the use of the group weights based on the sampling fractions as a means of estimating population totals for previous years does not take into account growers that may have gone out of business during the period studied. This is not considered to be a serious limitation in this study due to the fact that the period covered was one of general expansion in the industry and only a very few producers in the area went out of business during the period. Further indication that the limitation is not serious in this case is the close agreement of estimates for prior years with particular totals available from secondary sources.

Growers were asked to specify the amount of money borrowed annually to finance potato production. In cases where respondents did not wish to state the amount borrowed, they were asked to estimate the percentage of their total production cost which was borrowed annually during the five-year period, 1953-54 to 1957-58. These percentages were converted to dollar amounts on the basis of average annual per acre cost of producing potatoes for the Hastings area.[26] Information relative to changes in the source of borrowed funds was also enumerated.

Data from the handler survey were analyzed to show the distribution of sales by (a) grade and size, (b) utilization; for fresh market or processed market, and (c) type of buyer.

The seven handlers included in the survey do not constitute a probability sample. The arbitrary nature of sample selection placed theoretical limitations on expanding the sample data into estimates for the population. These limitations were not considered to be serious, in this case, since a large proportion of the total Hastings area sales was accounted for in the estimates. Grower sales, combined with sales of the seven handlers, accounted for about 90 percent of total Hastings area sales in 1957 and about 74 percent in 1958 (Table 7).

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[26] Annual per acre cost of production data were taken from Florida Vegetable Crops, Annual Statistical Summary (Florida Crop and Livestock Reporting Service, Orlando, Florida) Vol. X, 1954; Vol. XI, 1955; Vol. XII, 1956; Vol. XIII, 1957. The potato production cost section was discontinued with the 1957 report. Since no data were available on production cost for the 1957-58 season, calculations were made on the assumption that costs were the same as those reported for 1957.

TABLE 7.--Distribution of Total Potato Sales, by Specified Handlers, Hastings Area, Florida, 1957 and 1958.

Handler	Year			
	1957		1958	
	(Cwts.)	(Percent)	(Cwts.)	(Percent)
Grower-handlers[a]	1,072,961	30.0	1,077,319	29.6
Seven sample handlers	2,144,892	60.1	1,610,399	44.2
Other handlers[b]	352,147	9.9	952,282	26.2
Total Hastings area sales[c]	3,570,000	100.0	3,640,000	100.0

[a] Estimated total sales computed by expanding grower probability sample totals.

[b] Total sales for "other handlers" computed as the residual of total Hastings area sales after deducting grower sales and sales of the seven sample handlers.

[c] Total area sales for 1957 and 1958 as reported in Florida Vegetable Crops, Annual Statistical Summary, Vol. XIII, 1957 and Vol. XIV, 1958.

The limitation involved in inference from the handler sample to the population of handlers is quite serious relative to attribute data. Information concerning the opinions and attitudes of important handlers should be useful to all industry participants. However, there is no basis for claiming that the attitudes and opinions of the seven handling agencies are representative of the handler population from which they were selected.

CHAPTER II

SELECTED FARM CHARACTERISTICS, POTATO ACREAGE, AND VOLUME SOLD

Farm Characteristics

The potato industry in the Hastings area is highly specialized. As previously indicated, potatoes constitute the main source of farm income. In this chapter, a discussion is given of selected farm characteristics, acreage, and amount of potatoes during the period covered in the study. Sample totals have been expanded to yield estimates for all farms in the area.

Age of Growers and Potato Growing Experience

Growers on large farms tended to be somewhat older than those on small and medium farms (Table 8). The average age of all growers was 48 years. Medium and large farm operators had an average of 20 years experience in growing potatoes compared with 16 years for operators of small farms. As a whole, growers had an average of 18 years experience in potato production.

Cash Crops Other than Potatoes

Cabbage production was important as a supplementary enterprise on many farms. About 55 percent of the producers had cabbage enterprises in the 1957-58 season. An estimated total of 5,421 acres was planted on 148 farms or an average of 37 acres per farm. About 54 percent of the operators of small farms produced some cabbage compared with 52 percent

for medium farms and 68 percent for large farms. Only about 5 percent of the cabbage acreage was double-cropped with potatoes. No other cash crops of significance were reported.

TABLE 8.--Specified Characteristics of Commercial Potato Operations, by Size of Farm, Hastings Area, Florida, 1958.

Item	Size of farm			All farms
	Small	Medium	Large	
Age of growers (years)	47	47	52	48
Years of experience in growing potatoes in the Hastings area	16	20	20	18
Cabbage:[a]				
Number growers producing	99	32	17	148
Total acres planted	2,246	1,425	1,750	5,421
Average acres per farm	23	45	103	37
Total acres followed by potatoes	116	85	81	282
Estimated number of potato growers in Hastings area:[a]				
1957-58	183	61	25	269
1956-57	180	61	23	264
1955-56	165	61	23	249
1954-55	151	54	22	227
1953-54	148	51	22	221
Percent increase in number of growers from 1954 to 1958	23.6	19.6	13.6	21.7

[a] Computed from Table 56.

Number of Potato Growers in Area

The number of potato growers in the area increased 21.7 percent during the 5-year period studied. In the small farm group, the number increased 23.6 percent compared with 19.6 percent in the medium and 13.6 percent in the large farm groups.

Acres Planted and Harvested

The total number of acres planted in potatoes increased from 18,052 in 1953-54 to 26,410 in 1957-58, or an increase of 46.3 percent (Table 9). All size groups showed annual increases in planted acreage of all potatoes throughout the 5-year study period except for medium farms which had a slight decline in 1957-58. The relative increases in planted acreage was greater for red than for white potatoes in each group. However, red potatoes accounted for only about 7 percent of total planted acreage at the end of the 5-year period. The sharpest increase in planted acreage occurred in the 1956-57 season.

The total number of acres harvested was approximately equal to the number of acres planted from 1953-54 to 1956-57. About 7 percent of the planted acreage was not harvested in the 1957-58 season due to a combination of poor quality and low prices toward the end of the season. The relative change in acreage harvested did not differ greatly among the size groups (Figure 2). Fluctuations of the index of harvested acres was somewhat more pronounced for medium farms than for either small or large farms.

Volume of Sales

The estimated total hundredweights of all potato sales in the Hastings area increased from 3.1 million in 1953-54 to 4.0 million in 1956-57 and then declined to 3.7 million in 1957-58 (Table 10). The peak volume of sales by small farms was attained in 1955-56, whereas the sales volume of medium and large farms did not reach a peak until 1956-57. On the basis of the 5-season average, the three groups contributed about equally to the total sales volume of potatoes; however,

TABLE 9.--Estimated Acres of Potatoes Planted and Harvested, by Type of Potato and Size of Farm, Hastings Area, Florida, 1953-54 to 1957-58.[a]

Season	Type of potatoes: White potatoes: Planted	White potatoes: Harvested	Red potatoes: Planted	Red potatoes: Harvested	All potatoes: Planted	All potatoes: Harvested
			Small farms			
1953-54	5,917	5,903	257	257	6,174	6,160
1954-55	6,336	6,336	341	341	6,677	6,677
1955-56	7,198	7,198	348	348	7,546	7,546
1956-57	8,159	8,092	655	655	8,814	8,747
1957-58	8,518	7,973	718	704	9,236	8,677
5-season average	7,226	7,100	464	461	7,690	7,561
			Medium farms			
1953-54	5,439	5,439	37	37	5,476	5,476
1954-55	5,917	5,917	110	110	6,027	6,027
1955-56	5,917	5,917	122	122	6,039	6,039
1956-57	7,903	7,830	266	256	8,169	8,086
1957-58	7,505	6,964	407	407	7,912	7,371
5-season average	6,536	6,413	188	186	6,724	6,599
			Large farms			
1953-54	6,184	6,184	218	218	6,402	6,402
1954-55	6,917	6,917	218	218	7,135	7,135
1955-56	7,181	7,181	296	296	7,477	7,477
1956-57	8,592	8,530	434	434	9,026	8,964
1957-58	8,636	7,900	626	548	9,262	8,448
5-season average	7,502	7,342	358	343	7,860	7,685
			All farms			
1953-54	17,540	17,526	512	512	18,052	18,038
1954-55	19,170	19,170	669	669	19,839	19,839
1955-56	20,296	20,296	766	766	21,062	21,062
1956-57	24,654	24,452	1,355	1,345	26,009	25,797
1957-58	24,659	22,837	1,751	1,659	26,410	24,496
5-season average	21,264	20,856	1,011	990	22,275	21,846

[a] Computed from Table 57.

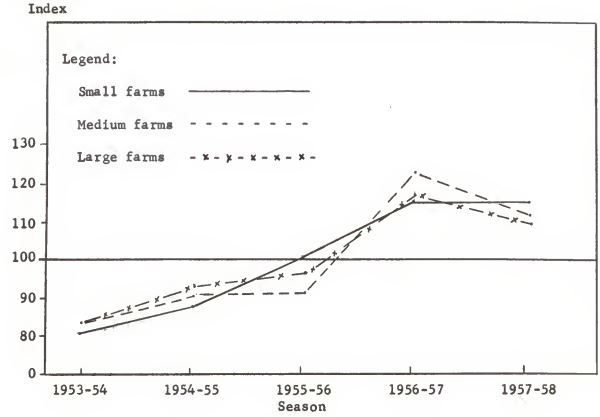

Figure 2. Index of Number of Acres of All Potatoes Harvested, by Size of Farm, Hastings Area, Florida, 1953-54 to 1957-58 (Average of 5-Season Period 1953-54 to 1957-58 equals 100).

Source: Table 9.

TABLE 10.--Estimated Hundredweights of Potatoes Sold and Average Sales per Acre Harvested, by Type of Potato and Size of Farm, Hastings Area, Florida, 1953-54 to 1957-58.[a]

Season	Type of potatoes: White potatoes: Total sales	White potatoes: Average per acre	Red potatoes: Total sales	Red potatoes: Average per acre	All potatoes: Total sales	All potatoes: Average per acre
	(Hundredweights)					
			Small farms			
1953-54	991,855	168	42,001	163	1,033,856	168
1954-55	1,066,014	168	57,823	169	1,123,837	168
1955-56	1,245,654	173	57,147	164	1,302,801	173
1956-57	1,177,475	146	97,476	149	1,274,951	146
1957-58	1,133,609	142	103,041	146	1,236,650	143
5-season average	1,122,921	158	71,498	155	1,194,419	158
			Medium farms			
1953-54	966,301	178	7,320	200	973,621	178
1954-55	1,099,354	186	21,960	200	1,121,314	186
1955-56	1,066,597	180	23,912	196	1,090,509	181
1956-57	1,241,374	159	42,529	166	1,283,903	159
1957-58	1,086,149	156	66,024	162	1,152,173	156
5-season average	1,091,955	170	32,349	174	1,124,304	170
			Large farms			
1953-54	1,092,374	177	41,028	188	1,133,402	177
1954-55	1,177,415	170	42,120	193	1,219,535	171
1955-56	1,285,877	179	57,112	193	1,342,989	180
1956-57	1,320,989	155	83,671	193	1,404,660	157
1957-58	1,228,849	156	95,982	175	1,324,831	157
5-season average	1,221,100	166	63,983	187	1,285,083	167
			All farms			
1953-54	3,050,530	175	90,349	181	3,140,879	175
1954-55	3,342,783	174	121,903	186	3,464,686	175
1955-56	3,598,128	178	138,171	185	3,736,299	178
1956-57	3,739,838	154	223,676	174	3,963,514	155
1957-58	3,448,607	153	265,047	164	3,713,654	153
5-season average	3,435,977	166	167,829	175	3,603,806	166

[a] Computed from Table 58.

medium farms accounted for only 19 percent of the average sales of red potatoes compared with 38 and 43 percent for the large and small farms, respectively. The rate of increase in the volume of all potatoes sold was relatively stable from 1953-54 to 1956-57 (Figure 3). The drop in the index of total sales during the 1957-58 season reflected low yields and larger than usual unharvested acreage.

Average sales per acre harvested were relatively stable for each size group from 1953-54 to 1955-56 but dropped to much lower levels during the last 2 years of the period studied. The 5-season average sales per acre for all potatoes was highest for medium farms and lowest for small farms. Red potato sales per acre averaged highest in the large farm group. Average sales per acre of red potatoes exceeded those for white potatoes for medium and large farms. The relatively low level of the index of sales per acre in 1956-57 and 1957-58 reflected extremely unfavorable growing conditions during those two seasons (Figure 3).

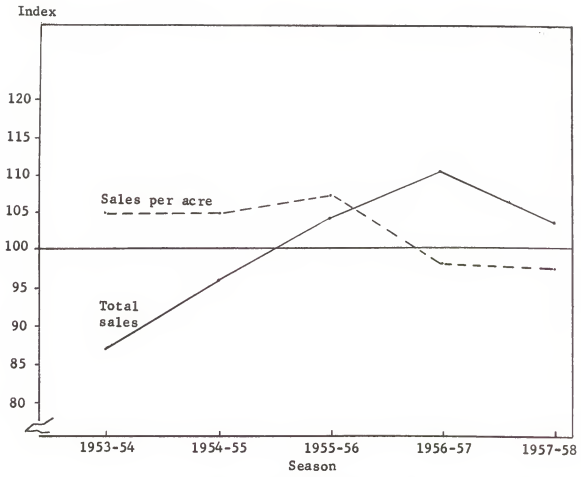

Figure 3. Indices of Total Volume of Potato Sales and Average Volume of Sales Per Acre Harvested, All Potatoes, Hastings Area, Florida, 1953-54 to 1957-58 (Average of 5-Season Period 1953-54 to 1957-58 equals 100).

Source: Table 10.

CHAPTER III

CHANGES IN METHODS OF HARVESTING, PACKINGHOUSE OPERATION, AND PRODUCTION FINANCING

Many of the changes occurring in the Hastings area during the 1950's were associated with the advent of mechanical harvesting. Other changes resulted largely from the very favorable income received in each of the five seasons from 1952 to 1956. With the advent of mechanical harvesting, old packing facilities had to be altered to permit handling of bulk potatoes or new packinghouses had to be constructed. Some growers constructed new packinghouses concurrent with the change to mechanical harvesting. Others built houses even though they made no change in their method of harvesting. Operation of their own packinghouses may have influenced some growers to start selling their own potatoes or to shift from their usual sales organizations, especially the cooperative associations.

The source of production credit probably did not remain the same in many cases as changes took place in the party or parties performing the selling function. All of these factors seem to have been important in the change in market organization and practices in the area. Some information relative to these changes is presented in this chapter.

Mechanization of Harvesting Operations

Mechanization of the harvesting operation has expanded rapidly in recent years. Increasing labor costs and problems associated with

obtaining an adequate supply of labor when it was needed were contributing factors to the mechanization movement.

It was estimated that 88 of the 269 Hastings area growers owned mechanical harvesters in 1958 (Table 11). Over one-half of the grower-owners was in the small farm group. However, the proportion of growers owning mechanical harvesters was much higher in the medium and large farm groups than in the small farm group.

TABLE 11.--Estimated Distribution of Ownership of Mechanical Harvesters, by Type of Machine and Number of Harvesters Purchased, by Date of Purchase and Size of Farm, Hastings Area, Florida, 1958.[a]

Item	Size of farm			All farms
	Small	Medium	Large	
Total number of growers in Hastings area	183	61	25	269
Number of growers owning mechanical harvesters in 1958	49	27	12	88
Percent of all growers owning mechanical harvesters	26.8	44.3	48.0	32.7
Number of mechanical harvesters owned:				
1-row machines	46	10	9	65
2-row machines	11	37	17	65
Total	57	47	26	130
Average number of machines per owner	1.16	1.74	2.17	1.48
Estimated number of machines purchased in:				
1954	4	5	-	9
1955	14	-	-	14
1956	21	12	15	48
1957	4	22	2	28
1958	7	8	9	24
Date unknown	7	-	-	7
Total	57	47	26	130

[a] Computed from Table 59.

Expansion of sample data indicated that there was a total of 130 mechanical harvesters in the Hastings area in 1958. Of this number, 50 percent were 1-row machines found mostly on small farms. Operators of medium and large farms favored the 2-row over the 1-row machines; however, they made substantial use of 1-row machines. The average number of machines per owner increased with the size of operation.

No mechanical harvesters were purchased by growers prior to 1954. The estimated number of harvesters bought annually increased rapidly from 1954 to a peak of 48 machines in 1956. Purchases in 1957 and 1958 reached approximately one-half the level attained in 1956, probably reflecting the unfavorable production and marketing conditions which tended to weaken the financial position of growers in 1957 and 1958.

Mechanical harvester owners used their machines primarily to harvest their own potatoes (Table 12). Growers on medium size farms made more intensive use of harvesters on both an absolute and relative basis than those on small and large farms. For all farms, 44.1 percent of total acreage was harvested mechanically in 1958. Custom harvesting was much more prevalent on small and medium farms than on large farms. The average custom rate ran somewhat higher for harvester owners of medium size farms. For custom operators as a whole, the average rate charged in 1958 was 38.1 cents per graded hundredweight.

Growers interviewed who had changed to mechanical harvesting between 1954 and 1958 were asked to state their main reasons for making the change. The labor problem was cited by 24 of the 33 harvester owners as a reason for converting (Table 13). Two segments of the

TABLE 12.--Estimated Total Acres of Potatoes Harvested, Extent of Use of Mechanical Harvesters and Average Custom Rate Charged, by Size of Farm, Hastings Area, Florida, 1958.[a]

Item	Size of farm			
	Small	Medium	Large	All farms
Acres of potatoes harvested by all harvesting methods	8,677	7,371	8,447	24,495
Acres of potatoes harvested with mechanical harvesters:				
Owners' crop	2,696	3,284	3,233	9,213
Custom basis for others	722	703	156	1,581
Total	3,418	3,987	3,389	10,794
Percent of total acres harvested with mechanical harvesters	39.4	54.1	40.1	44.1
Average custom rate charged (cents per graded hundredweight)	36.2	42.5	37.5	38.1

[a] Computed from Table 59.

TABLE 13.--Number of Sample Growers Owning Mechanical Harvesters and Summary of Reasons for Converting to Mechanical Harvesting, by Size of Farm, Hastings Area, Florida, 1958.

Item	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Growers owning mechanical harvesters	14	11	8	33
Reason for using mechanical harvesters:				
Labor problem	12	8	4	24
More economical	5	8	8	21
Other	6	4	-	10
Total[a]	23	20	12	55

[a] Some growers gave more than one reason.

labor problem were felt to be important. First, the labor supply was not dependable and second, labor costs per unit were relatively high. Many growers felt that the labor problem in terms of supply and cost would get progressively worse in the near future. About two-thirds of the harvester owners indicated that one reason for converting to mechanical harvesting was the belief that it would be more economical than the conventional method. Underlying this belief was the feeling that labor cost would continue to rise. Of the 33 harvester owners, 10 gave various other reasons for changing. Some felt there would be less physical injury to potatoes if they were harvested mechanically. Others held the opinion that they could get potatoes removed from weather exposure faster by using mechanical harvesters.

The 60 sample growers who did not own mechanical harvesters were asked to state their reasons for not buying harvesters. Operators of small farms reported the main reasons for not purchasing such equipment were insufficient acreage and the relatively large investment requirement (Table 14). On medium farms, growers generally felt that they had sufficient acreage. They had not purchased harvesters mainly because of the high investment required. On large farms, factors other than acreage and investment requirements appeared to influence the conversion to mechanical harvesting. For instance, some growers felt that harvesters were too slow and some were waiting for additional improvement to be made before buying them.

Ownership and Operation of Packinghouses

Expansion of the sample data gave an estimate of 54 growers who owned or jointly owned packinghouses in 1958 (Table 15). These 54

TABLE 14.--Number of Sample Growers Not Owning Mechanical Harvesters and Summary of Reasons for Not Buying Mechanical Harvesters, by Size of Farm, Hastings Area, Florida, 1958.

Item	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Growers not owning mechanical harvesters	38	14	8	60
Reasons for not buying mechanical harvesters:				
Not enough acreage	29	2	-	31
Too much investment required	9	10	2	21
Mechanical harvesters are too slow	2	-	3	5
Waiting for improved harvesters	5	2	3	10
Other	4	4	5	13
Total[a]	49	18	13	80

[a] Some growers gave more than one reason.

TABLE 15.--Estimated Number of Growers Owning Packinghouses, Number of Packinghouses Operated by Growers and Number of Packinghouses Acquired Annually from 1954 Through 1958, by Size of Farm, Hastings Area, Florida, 1958.[a]

Item	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Growers owning packinghouses:				
Sole ownership	-	15	17	32
Joint ownership	7	15	-	22
Total	7	30	17	54
Number of packinghouses operated	7	24	20	51
Number of packinghouses built or acquired in:				
1958	-	-	-	-
1957	4	2	5	11
1956	-	5	-	5
1955	-	2	2	4
1954	-	5	2	7
Total	4	14	9	27

[a] Computed from Table 60.

growers operated 51 packinghouses, most of which belonged to operators of medium and large farms. In each size group, about one-half of the packinghouses in operation in 1958 had been built or otherwise acquired between 1954 and 1958.

Thirty-five grower operated packinghouses were equipped to handle bulk potatoes in 1958. Most of these were owned by operators of medium and large farms (Table 16). Average rate of packing increased with

TABLE 16.--Selected Characteristics of Growers' Packing Operations and Estimated Population Totals of Volume Received in Bulk and Total Volume Packed, by Size of Farm, Hastings Area, Florida, 1958.

Item	Size of farm			
	Small	Medium	Large	All farms
Number of grower owned and operated packinghouses[a]	7	24	20	51
Number of packinghouses equipped to handle bulk potatoes	4	17	14	35
Average rate of packing (hundredweights per hour)[b]	225	300	413	353
Hundredweights packed[a]	240,522	1,192,438	1,280,471	2,713,431
Hundredweights received in bulk[a]	61,600	615,700	448,578	1,125,878
Proportion of hundredweights packed received in bulk	25.6	51.6	35.0	41.5
Volume packed as a percent of total volume packed by all groups	8.9	43.9	47.2	100.0

[a] Computed from Table 60.

[b] Average capacity is for plants included in the grower sample.

increase in size of farm. For all plants, the average rate of packing was 353 hundredweights per hour. Over 90 percent of the total volume packed was by plants owned by operators of medium and large farms. The proportion of total volume received in bulk was much higher for plants in the medium size farm group than for those in the small or large size farm groups. For all plants, 41.5 percent of the volume packed was received in bulk form.

Packinghouse owners were asked to state their reasons for entering the packing business. The reason most frequently given was that the grower could pack his potatoes when he desired. Some had entered the packing business because they felt they could pack their potatoes at a lower cost per unit than was being charged by other packers. Some were displeased with practices of other packers such as rough handling and insufficient supervision of personnel on the grading line.

Production Financing

Financing is an important segment of the Hastings potato industry. The specialized nature of production and large size operations necessitate the use of large amounts of capital. Many growers regularly depend on loans for a part of these capital requirements.

The number of growers obtaining loans increased in each size group during the 5-year period studied (Table 17). However, this of itself, does not indicate that the financial position of growers in general was becoming more unfavorable. The increase in number of borrowers was approximately offset by an increase in total number of growers. With the exception of the large farm group, the number of growers borrowing was a fairly constant percentage of all growers throughout the 5-year

TABLE 17.--Estimated Number and Percentage of Growers Obtaining Loans for Potato Production, by Size of Farm, Hastings Area, Florida, 1953-54 to 1957-58.

Item and season	Size of farm			
	Small	Medium	Large	All farms
Number of growers obtaining loans:[a]				
1953-54	121	39	8	168
1954-55	129	41	8	178
1955-56	136	43	10	189
1956-57	149	43	12	204
1957-58	150	45	17	212
Percent of growers obtaining loans:				
1953-54	82	76	36	76
1954-55	85	76	36	78
1955-56	82	70	43	76
1956-57	83	70	52	77
1957-58	82	74	68	79

[a] Computed from Table 61.

period. The proportion of growers on large farms obtaining loans almost doubled from 1953-54 to 1957-58.

The estimated amount of credit used for potato production in the Hastings area increased annually during the 5-year period (Table 18). The greatest relative increase was in the large farm group; however, loans to this group were less than one-half of those to the small or medium size farm group in 1958. Annual loans to the small farm group exceeded those to the medium farm group throughout the study period.

Amount of credit used was influenced by new producers coming into the industry between 1953-54 and 1957-58 and also expansion of potato acreage on the part of some producers. The average amount borrowed per acre of potatoes produced by borrowers presents a more accurate picture as far as dependence on credit is concerned. The average

TABLE 18.--Estimated Amount of Credit Used for Potato Production, by Size of Farm, Hastings Area, Florida, 1953-54 to 1957-58.[a]

Season	Size of farm: Small	Medium	Large	All farms
		(Dollars)		
1953-54	1,522,379	1,237,980	216,611	2,976,970
1954-55	1,588,083	1,402,871	230,683	3,221,637
1955-56	1,586,450	1,388,282	367,650	3,342,382
1956-57	1,990,595	1,915,685	548,721	4,455,001
1957-58	2,114,964	1,790,079	831,726	4,736,769

[a] Computed from Table 62.

amount of credit used per acre of potatoes produced was calculated for sample growers that used credit (Table 19). For all borrowers, loans per acre reached a peak at $253 in 1956-57, then dropped to $233 in

TABLE 19.--Average Amount of Money Borrowed Per Acre of Potatoes Produced, by Size of Farm, Sample Growers, Hastings Area, Florida 1953-54 to 1957-58.[a]

Season	Size of farm: Small	Medium	Large	All farms
		(Dollars)		
1953-54	301	306	111	248
1954-55	276	318	106	242
1955-56	265	310	143	242
1956-57	269	305	171	253
1957-58	276	302	156	233

[a] Calculated on the basis of total acres of potatoes produced by borrowers.

1957-58. The smaller amount in 1957-58 probably reflected a tightening up of credit sources following the unfavorable 1956-57 season when many growers found it difficult or impossible to pay off outstanding debts. The most outstanding change during the period was the rapid increase

in the amount borrowed per acre by growers in the large farm group. Growers in the medium farm group obtained larger average loans per acre than those in the small and large farm groups.

Growers in the Hastings area obtained loans from Production Credit Associations, hereafter referred to as PCA, banks, cooperatives, individuals, or other lenders.[1] There was a wide variation in the relative importance of these credit sources for any given year and also substantial changes in the importance of a given credit source over the 5-year study period (Table 20). For borrowers as a whole, cooperative and PCA loans averaged about three-fourths of the total credit used during the 5-year period. Banks, individuals, and other lenders averaged between 7 and 9 percent each. The relative importance of cooperatives as a source of credit declined rapidly during the period in contrast to an increase for each of the other credit sources.

In terms of 5-season averages, PCA accounted for about one-third of the credit used by growers in each size group. During the period, there was an upward trend in the proportion of credit supplied by the PCA to operators of small and medium farms which was offset by a downward trend for operators of large farms.

On the average, cooperatives furnished 48.9 percent of the credit used by growers in the small farm group compared with only 18.3 percent for those in the large farm group. In each group, the proportion of credit supplied by cooperatives decreased considerably during the study period.

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[1] Other lenders included several handlers in the area, a broker, and a fertilizer company.

TABLE 20.--Percentage Distribution of Total Volume of Credit Used in Potato Production, by Source of Loan and Size of Farm, Hastings Area, Florida, 1953-54 through 1957-58.[a]

Size of farm and season	Source of loan					
	PCA	Bank	Cooperative	Individual	Other	All sources
	(Percent)					
Small farms						
1953-54	23.8	4.1	61.9	2.6	7.6	100
1954-55	29.2	5.0	55.1	2.6	8.1	100
1955-56	34.1	5.7	46.3	3.6	10.3	100
1956-57	37.3	3.2	40.7	9.0	9.8	100
1957-58	35.9	2.6	44.8	6.7	10.0	100
5-season average	32.6	4.0	48.9	5.2	9.3	100
Medium farms						
1953-54	24.6	5.7	55.1	9.4	5.2	100
1954-55	35.6	5.2	47.5	11.7	-	100
1955-56	35.3	5.1	46.1	11.7	1.8	100
1956-57	35.1	7.3	33.6	24.0	-	100
1957-58	39.2	8.9	37.8	5.4	8.7	100
5-season average	34.5	6.6	42.8	12.9	3.2	100
Large farms						
1953-54	52.5	19.4	28.1	-	-	100
1954-55	50.4	22.6	27.0	-	-	100
1955-56	35.1	14.2	16.9	-	33.8	100
1956-57	24.3	15.5	17.7	-	42.5	100
1957-58	29.3	28.6	14.3	-	27.8	100
5-season average	33.5	21.4	18.3	-	26.8	100
All farms						
1953-54	26.2	5.9	56.6	5.2	6.1	100
1954-55	33.5	6.3	49.8	6.4	4.0	100
1955-56	34.7	6.4	43.0	6.6	9.3	100
1956-57	34.8	6.5	34.8	14.3	9.6	100
1957-58	36.0	9.6	36.8	5.0	12.6	100
5-season average	33.5	7.1	42.8	7.8	8.8	100

[a] Computed from Table 63.

The relative importance of bank credit was much greater in the large farm group than in either the small or medium farm groups. Individuals as a source of credit were important to growers in the medium farm group. Other lenders were relatively unimportant until the last

three years of the period when they supplied a fairly large proportion of the credit used by growers in the large farm group.

No effort was made to ascertain such elements of credit as rate of interest, time period of loans, extent and kind of loan security, or conditions governing repayment. However, on the assumption that the credit source had some influence on certain production and marketing decisions, borrowers were asked to state any production or marketing conditions attached to their loans. Almost all growers borrowing from the PCA stated they were required to identify the seller of their potatoes when obtaining loans. They consistently noted that the PCA did not specify a particular seller for their potatoes.

Growers borrowing from banks indicated there were no production or marketing conditions attached to their loans. Borrowers using cooperative loans agreed to let the cooperative sell their potatoes. In some cases, cooperatives also influenced the decision of the date or rate of harvesting. Generally, growers borrowing from individuals or other lenders agreed to let the lender sell their potatoes. In one instance the lender specified the harvesting date and in another case the grower agreed to split the profit with the lender.

CHAPTER IV

GROWING OF POTATOES UNDER CONTRACT

A new factor entering the Hastings potato picture during the period covered in this study was that of growers producing potatoes under contract, mainly with processors who converted the potatoes into potato chips. The advent of contracting was the result of the large increase in the amount of the area's potatoes sold to processors. Contracts have been used extensively by growers in other areas in the production of certain vegetable crops to be used mainly for processing, such as cucumbers, peas, sweet corn, tomatoes, etc. This practice has been extended to the production of potatoes only in recent years.

The price of early potatoes is very sensitive to supply and is usually high in seasons when supplies of early or old potatoes are short. Relatively high prices pose more of a problem to potato chippers than to buyers for the fresh market since the price of potato chips at retail does not tend to fluctuate as much as the price paid for the raw product. Contracting with growers for a part of their supply has been a method used by processors to insure a minimum supply of potatoes and also to hedge against wide variations in price.

Contract growing was defined as a definite agreement, either written or oral, on the part of a grower to produce and deliver a specified volume of potatoes to a given buyer. No subject appeared to be of

greater concern to growers and other industry participants than the pros and cons of contract growing.

Extent of Contract Growing

Contract growing started in the Hastings area during the 1954-55 season, when only eight producers had contracts. The number of producers with contracts started increasing rapidly in 1956-57 and reached an estimated total of 65 in 1957-58 (Table 21). Almost two-thirds of the contracts were held by growers in the small farm group in 1957-58.

TABLE 21.--Estimated Number of Growers Holding Production Contracts and Change in Contract Volume, by Size of Farm, Hastings Area, Florida, 1953-54 to 1957-58.

Item	Size of farm			
	Small	Medium	Large	All farms
Number of growers holding contracts[a]				
1953-54	-	-	-	-
1954-55	4	2	2	8
1955-56	4	2	3	9
1956-57	25	12	6	43
1957-58	42	17	6	65
Total volume of potatoes on contract (cwts)				
1954-55	9,504	21,960	23,400	54,864
1957-58	150,427	101,343	132,600	384,370
Volume on contract as a percent of total Hastings area production				
1954-55	0.8	2.0	1.9	1.6
1957-58	12.2	8.8	10.0	10.4

[a] Computed from Table 64.

The volume of potatoes on contract increased from 54,864 hundredweights in 1954-55 to 384,370 in 1957-58. Contract production represented 1.6 percent of the total output in the area in 1954-55 compared with 10.4 percent in 1957-58. Operators of small farms had a larger proportion of their total output on contract in 1957-58 than did those of medium and large farms.

Generally, contractors and growers were conservative in fixing the volume of contracts. Apparently, contractors wished to be assured of a specified volume in the event of lower than normal yields, whereas many growers felt it to their advantage to contract only a part of their expected output. For contract growers as a whole, the volume on contract was 26.7 percent of total output in 1954-55 compared to 32.5 percent in 1957-58 (Table 22).

TABLE 22.--Relation of Contract Volume to Total Volume Sold by Contract Growers Interviewed, by Size of Farm, Hastings Area, Florida, 1954-55 and 1957-58.

Season	Size of farm			
	Small	Medium	Large	All farms
	Volume on contract (cwts.)			
1954-55	2,700	9,000	15,000	26,700
1957-58	42,735	41,534	85,000	169,269
	Contract volume as percent of total sales			
1954-55	30.0	34.6	23.1	26.7
1957-58	43.2	25.7	32.6	32.5

The higher proportion on contract in 1957-58 did not indicate an effort by processors to obtain a larger share of the contract growers' output, but resulted primarily because of relatively low yields.

Contracting was done on the basis of expected output prior to, or during, the planting season. Adjusting actual sales to expected sales on the basis of the 5-season average sales per acre was assumed to be a reasonable approximation of expected output at the time of contract negotiation. If actual sales per acre for contract growers had equaled the 5-season average, the proportion of sales represented by contract potatoes would have differed by less than 1 percent for the two years compared (Table 23). However, substantial differences would have

TABLE 23.--Relationship of Contract Volume to Expected Total Output of Sample Contract Growers, by Size of Farm, Hastings Area, Florida, 1954-55 and 1957-58.

Season	Size of farm			
	Small	Medium	Large	All farms
	Contract volume as percent of expected output[a]			
1954-55	29.5	35.1	25.7	28.6
1957-58	38.9	22.8	26.6	27.7

[a] Expected output computed on basis of 5-season average sales per acre.

existed in the proportions of total output accounted for by contract potatoes on small and medium farms. The increase from 1954-55 to 1957-58 in the small farm group was approximately offset by a decrease in the medium farm group.

Contract Characteristics

Contract growers were asked to supply information concerning the details of their 1957-58 contracts.

Quality and Size Specifications

Almost two-thirds of the contracts specified that the potatoes would be U. S. No. 1, size A (Table 24). A few contracts specified that the quality would be U. S. No. 1, but did not specify size. Only one contract did not specify a grade or size.

TABLE 24.--Selected Characteristics of Contracts for the 1957-58 Season, 23 Growers, Hastings Area, Florida, 1958.

Item specified	Number of contracts
Quality and size:	
U. S. No. 1, size A	15
U. S. No. 1	5
Percentage U. S. No. 1	3
Unspecified	1
Total[a]	24
Price per hundredweight:	
Sliding scale:	
$3.00 - $4.00	1
$2.50 - $3.25	6
$2.50 - $3.50	12
Flat rate:	
$2.90	1
$3.00	3
$4.50	1
Total	24
Federal-State inspection	14
New bags	18
Bags to be furnished by grower	22

[a] One grower had two contracts.

Price Specifications

Contract price agreements were made either in terms of a sliding scale or flat rate per hundredweight. Under a sliding scale arrangement, the lower and upper limits of the range within which the price might

fluctuate were specified. Market price on the selling date was the price received by the grower provided it was within the range specified in the contract. The flat rate referred to a fixed price per hundredweight irrespective of the market price level.

The sliding scale price basis was used in 19 of the 24 contracts (Table 24). The most popular price scale was $2.50 - $3.50. Flat rates ranged from $2.90 in one contract to $4.50 in another, with three of the five flat rate contracts specifying a $3.00 price.

Other Characteristics

Slightly more than one-half of the contracts required Federal-State inspection for conformance to quality specifications. Three-fourths stipulated that potatoes would be put in new bags and 22 contained the provision that bags were to be furnished by the grower. All contracts except one were written agreements. Of the 23 contracting growers interviewed, 19 stated they were responsible for making the initial contact with the contracting agency. All contract growers indicated that they had plenty of time to study the agreement before signing it. None of the agreements contained any credit extension features. The mode of transportation generally was not specified. Growers appeared to be well satisfied with the features of contracts as they existed in 1957-58. About one out of six contracting growers felt that the existence of a formal agreement encouraged the buyer to purchase additional potatoes from them which were not covered by the contract.

Opinions About Contract Growing

Contracting was a controversial issue in the Hastings area in 1958. Neutrality was conspicious by its absence. Growers were either for or

against contracting in no uncertain terms. Some opinions of contract growers will be considered first, followed by discussion of the opinions of all growers interviewed.

Opinions of Contract Growers

With certain exceptions, contract growers were asked questions designed to find out how they felt about their contracts.[1] Each of the 13 contract growers thought the contract was to his advantage (Table 25). All contract growers specified some feature of the contract which they liked but only three of the growers said there was anything about the contracts which they disliked. Most of the growers felt there were no important changes needed in the contracts. About one-half of the growers felt the existence of a contract had encouraged the processor to buy potatoes from the grower other than those covered in the contract.

Based on the above responses, it seems reasonable to conclude that contract growers were well satisfied in general with their contracts as recently as 1958. However, there are indications that contracting encountered much rougher sailing in the 1959-60 season. These more recent developments are the subject of a later section in which evaluation of contracting is attempted.

Opinions of all Growers Interviewed

Almost 54 percent of the sample growers thought that contract growing would increase compared with about 21 percent that held the opinion it would decrease (Table 26). Almost 23 percent indicated they had not

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[1] Ten of the 23 growers holding contracts during the 1957-58 season were not asked to answer the questions discussed in this section.

TABLE 25.--Opinions Relative to Various Aspects of Their 1957-58 Contracts, 13 Growers, Hastings Area, Florida, 1958.

Questions and response	Number of growers
Do you feel the over-all effect of the contract was:	
To your advantage	13
To your disadvantage	0
Total	13
What features about the contract did you like:	
Insures outlet at known price	5
Flat rate price	3
Save inspection fee	2
Agency lived up to contract	2
F.O.B. acceptance and no transit risk	1
Total	13
What features about the contract did you dislike:	
None	10
Chance of losing if price goes high	2
Required U. S. No. 1 quality	1
Total	13
What are the most important things that might be done to make the contract more desirable from your point of view?	
Nothing	10
Higher minimum price	2
Flat price and percentage potatoes instead of U. S. No. 1	1
Total	13
Do you think the fact you contracted encouraged the contractor to buy potatoes from you other than those covered in the contract?	
Yes	6
No	7
Total	13

formed a definite opinion about the question. The relatively large number of undecided growers was probably related to the fact that contract growing had started in the area only recently. Considering only those growers who thought contracting would increase or decrease, the result of the chi-square test indicated opinions were independent of

TABLE 26.--Response to the Question, "Do you think contract growing will increase or decrease in this area?" by Size of Farm, 93 Potato Growers, Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Increase	26	13	11	50
Decrease	15	4	1	20
Remain same[a]	-	1	1	2
Don't know[a]	11	7	3	21
Total	52	25	16	93

$X^2 = 3.92$, not significant at the 90 percent level.

[a] Not included in chi-square test.

size group.[2] When the 50 growers who thought contract growing would increase were asked to state the reason for their opinion, 24 indicated they thought contracting would increase because it aided in obtaining production credit.[3] Another 23 growers thought contracting would increase because it offered assurance to the grower of an outlet for part

[2] See Appendix C for method of chi-square calculation. The calculated chi-square values have been compared with the tabular values and the nearest testing level at which they are either significant or not significant has been indicated. For example, the chi-square value of 3.92 (Table 26) is not significant at the 90 percent level but is significant at the 75 percent level. On the other hand the chi-square value of 1.27 (Table 28) is not significant at the 50 percent level but is significant at lower levels. Thus, we can conclude that the influence of size of farm is much greater in the former than in the latter case. However, if we had specified a certain level for testing, say 95 percent, we would have simply noted that the chi-square value was not significant in either of the above cases.

[3] Although none of the contracts provided for credit to be extended by the processor, many growers were convinced that credit could be obtained more easily from regular lending sources when the grower had part of his potatoes on contract. To the lender, these contract potatoes represented less risk since for all practical purposes they could be considered as already sold.

of his crop. Of the 20 growers who thought contracting would decrease, 60 percent indicated the reason for their opinion was that contract prices were too low.

Approximately two-thirds of the sample growers believed contract growing was a contributing cause for the low prices received during the 1957-58 season (Table 27). In this case, the chi-square value indicated the hypothesis of independence should be rejected and the conclusion was that size group affected response. Growers in the small farm group tended to have the opinion that contracting created a downward pressure on prices whereas growers in the large farm group tended to have the opinion that contracting was not a cause of low prices.

TABLE 27.--Response to the Question, "Do you think contract growing played any part in causing the low prices received by growers in the 1957-58 season?" by Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Yes	38	16	6	60
No	13	7	10	30
Don't know[a]	1	2	-	3
Total	52	25	16	93

$X^2 = 7.64$, significant at the 95 percent level.

[a] Not included in the chi-square test.

What appeared to be a conflict in responses was encountered at this point. From responses to the previous question, it was found that 50 growers thought contracting would increase but responses to the next question indicated that 60 growers held the opinion contract growing had influenced prices in a downward direction. One might

raise the question as to why some growers apparently thought contracting would increase while at the same time they believed it had been a contributing cause of low prices. This apparent inconsistency in responses is not necessarily irreconcilable. In the first place, many growers appeared to feel that contracting served some useful purposes not directly associated with the contract price level. The importance of these elements was indicated in the reasons given by the 50 growers for their opinion that contracting would increase. It may be recalled that 24 growers thought contracting would increase because it aided in obtaining production credit, while 23 other growers felt an increase in contracting would occur because it offered assurance of a market outlet for part of the potato crop. It is noteworthy that none of the growers substantiated their opinion that contracting would increase by reference to favorable contract prices relative to expected open market prices. In the second place, under the relatively high degree of competition existing in the production and marketing of the crop, it was not necessarily inconsistent for an individual grower to enter contract production when he held the opinion that contracting in the aggregate had resulted in lower prices. Under competition, the individual would not expect his action alone to affect price and hence he might enter contract production when he felt contracting in the aggregate would cause lower prices. In the third place, there is no reason to conclude that growers who thought contracting resulted in lower prices in the 1957-58 season would necessarily hold the same opinion for other seasons.

About 22 percent of the sample growers stated their intention to contract during the 1958-59 season compared with 61 percent that

TABLE 28.--Response to the Question, "What are your plans regarding contracting for the 1958-59 season?" by Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Will not contract	36	13	8	57
Will contract	11	4	5	20
May contract[a]	1	3	2	6
Don't know[a]	4	5	1	10
Total	52	25	16	93

$X^2 = 1.27$, not significant at the 50 percent level.

[a] Not included in chi-square test.

indicated they would not contract (Table 28). The chi-square value supports the hypothesis that these intentions were independent of size group.

Evaluation of Contracting in the Hastings Area

Growers generally seemed to be well pleased with their contracts in 1958. Processors had increased their contracting activities in the area indicating they considered the contracts as advantageous. Thus, it seems reasonable to conclude that the particular contractual arrangements were mutually satisfactory under the conditions existing at that time. This does not necessarily mean that the type of contracts being used, nor the specific terms of the contracts, were such that they would result in the mutual advantage of both parties over the entire range of production and marketing conditions which might develop in the area.

The sharp increase in contract activity started in the 1956-57 season when 43 growers held contracts compared to nine the previous season. Then in the 1957-58 season the number of growers with contracts increased to 65 (Table 21). The average price received for Florida spring

crop potatoes was $1.84 and $2.00 per hundredweight in 1957 and 1958, respectively.[4] Re-examination of Table 23 indicates favorable contract prices in 1958 compared with the relatively low average price received for spring potatoes. During the course of the survey, many growers indicated that 1958 contract prices differed little from those that existed in 1957 when the average price received for spring potatoes was only $1.84 per hundredweight.

The contracting situation has changed to an important degree since 1958. Antagonism has developed between producers and processors.[5] Some growers failed to deliver on their contracts during the 1960 marketing season due to a short crop and a market price of about $8.00 per hundredweight.[6] Such breach of contract would be expected to antagonize processors. Likewise, growers would be expected to complain if they had to deliver potatoes at the maximum contract price (perhaps $3.50) when the market price was as high as $8.00. Assuming that contracting will continue in the area, it appears that more flexibility in price and quantity specifications may be needed.

Historically, contracts in the Hastings area have usually specified a total number of 100-pound bags of potatoes. On the average, the volume on contract was about one-third of the total production of contract growers in 1958 (Table 22). The most common contract price in 1958 was $2.50 to $3.50 with the grower receiving market price if it

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[4] Florida Vegetable Crops, op. cit. Vol. XIV, p. 58.

[5] Letter, R. E. L. Greene, Professor of Agricultural Economics, University of Florida, dated April 11, 1961.

[6] Ibid.

fell within the contract price range. In the fall of 1957 when the contracts were signed, if the parties to the contracts assumed that the spring crop would be normal in terms of yield and quality, there seems to be little reason why they would have expected the market price to fall outside the $2.50 to $3.50 contract range. Thus, this type of contracting amounts to the processor telling the grower that he will probably get the market price for his contract potatoes if a normal season materializes.

One might raise the question as to why an individual grower would wish to contract if he did not hope by so doing to get a price somewhat higher than the market price. The reason some growers were willing to contract under such conditions was no doubt related to the difficulties they expected to encounter if they attempted to find outlets for all their potatoes at harvest time. With the large number of sellers in the area thrown into panic because of a short marketing season and dealing with a perishable product, the individual grower could not even be sure he would get the market price for potatoes he sold at harvest time. Many growers stated they looked on contracting as a sort of insurance. They had found a "home" for part of their potatoes before they were ever planted.

The type of contract discussed above probably gives both the processor and grower a reasonably fair deal under supply conditions which approach normal. The real weaknesses of the contract show up under abnormal supply conditions. This occurs because contracts usually specify a certain number of bags of potatoes. An example may be used to clarity the point.

Suppose the total production of an individual grower is expected to be 20,000 bags, assuming a normal season develops. Let us assume further that he contracts to deliver 10,000 bags, or one-half of his expected production, to a processor on a $2.50 to $3.50 sliding scale. If conditions in fact turn out to be normal, the grower will deliver approximately 50 percent of his crop to the processor. If the yield exceeds normal by one-half, which is not very probable, the grower will deliver one-third of his production to the processor. Assuming that heavier supplies have pushed the market price below the minimum of $2.50 which the processor has agreed to pay, the grower is left with two-thirds of his crop selling at a price below the contract price.

Suppose, on the other hand, the growing conditions are unfavorable and the grower gets only one-half of a normal yield. It will then take his entire production to fulfill his contract commitment. If these conditions are general for the industry, then supplies are limited and the market price rises to a high level. This appears to have been the nature of events in the Hastings area in 1960, leading to a breach of contract on the part of some growers. Under the existing method of contracting in the area, it appears that growers carry more than a reasonable share of risk in case of short crops.

Some changes in the method and terms of contracting might result in more flexible contract provisions and tend to reduce the risk associated with annual variations in production. The processor wants protection in years of low supply and high prices. The grower wants protection in years of heavy supply and low prices. Both objectives might be more closely approached if contracts called for a fixed percentage of total production rather than a fixed number of bags of potatoes.

The Proposed Fixed Percentage Contract

The term "fixed percentage contract" is used to refer to a type of contract in which the processor would agree to take a certain percentage of the output from a given number of acres. The contract price could be either a fixed amount per bag, or the familiar sliding-scale type. The essentials of such a contract are relatively simple (Table 29).

TABLE 29.--Comparison of Gross Returns to a Grower Without a Contract and with the Usual and "Fixed Percentage" Contracts Using Hypothetical Data and Three Levels of Production.

Item	Level of production		
	Low	Average	High
Acres of potatoes under contract	100	100	100
Yield per acre (cwts.)[a]	100	150	200
Total production (cwts.)[b]	10,000	15,000	20,000
Potatoes to be delivered to contractor:			
Fixed percent	50	50	50
Fixed percentage contract (cwts.)	5,000	7,500	10,000
Usual contract (cwts.)	7,500	7,500	7,500
Price of potatoes per cwt.:			
Open market price	$5.00	$3.00	$2.00
Contract price	$2.50-$3.50	$2.50-$3.50	$2.50-$3.50
Gross returns to grower:[c]			
No contract	$50,000	$45,000	$40,000
Usual contract	38,750	45,000	43,750
Fixed percentage contract	42,500	45,000	45,000

[a] Estimated average yield per acre for the Hastings area as reported early in the marketing season by the Florida Crop Reporting Service.

[b] Total production of grower based on estimated average yield per acre for the area.

[c] Computed as follows: (10,000)($5.00) = $50,000; (15,000)($3.00) = $45,000; (20,000)($2.00) = $40,000; (7,500)($3.50) + (2,500)($5.00) = $38,750; (15,000)($3.00) = $45,000; (7,500)($2.50) + (12,500)($2.00) = $43,750; (5,000)($5.00) + (5,000)($3.50) = $42,500; (15,000)($3.00) = $45,000; (10,000)($2.50) + (10,000)($2.00) = $45,000. These returns are computed on the assumption that the grower's actual yield per acre will be the same as the estimated average yield per acre for the area.

This section is designed to compare the gross returns to a grower under such a contract with those he would get if he had no contract or was using the usual type of contract under which potatoes were grown in the area. Three levels of production are used to indicate the way in which gross returns would fluctuate as yields varied between seasons.

In the average level of production column of Table 29 we have an approximation of the results we would expect under the assumption that a normal season will develop. In other words, the grower and the processor are assumed to have entered into the contract with the expectation that yields during the coming season will be about the same as the average yield over several recent seasons. Thus, the contract price agreed upon is likely to be such that neither party will benefit to any great extent if a normal season does in fact materialize. In other words, the market price is likely to fall between the minimum and maximum limits of the contract price. In this case the grower gets the same price for contract potatoes as he does for noncontract potatoes. The processor, on the other hand, pays the same price for contract potatoes as he does for those he buys on the open market. It is during the abnormal seasons that contracting carries important protection for the grower or the processor.

Under the hypothetical situation specified in Table 29, gross income would vary only $2,500 between the low and high levels of production if a fixed percentage contract was used. With the usual type of contract in effect, gross returns would vary $5,000 between the low and high levels of production and without any contract in effect the corresponding variation would be $10,000.

Advantage of the Fixed Percentage Contract

One of the main advantages of the fixed percentage contract is that it ties the amount to be delivered to the general conditions prevailing during a particular season. With a short crop and high market prices, growers would not be faced with the possibility of having to deliver their entire output to fill a contract which specified a relatively low price. If yield was only 100 hundredweights per acre (two-thirds of the assumed normal yield of 150 hundredweights) the grower would be required to deliver 5,000 bags instead of 7,500 bags. This would leave him with 5,000 bags to sell at the relatively high market price. On the other hand if yield turns out to be 200 bags per acre, he will have 10,000 bags to sell at the minimum contract price. In addition to giving the grower some protection from low prices resulting from heavy supplies, this type of contract would tend to stabilize his gross returns.

The processor gets protection during a short crop and high prices. Rather than having to procure all his supply at the high market price, he is able to purchase part of the potatoes he needs at the relatively low contract price. It is assumed that growers generally would live up to their contract terms if it did not require more than one-half of their crop to fill their contracts.

Another advantage of the fixed percentage contract is the fact that no policing would be required. Even though the amount to be delivered to the processor varies with the average yield per acre, no difficulty is involved. Given the level of production for a particular season, the exact amount to be delivered is readily ascertained by both grower and processor.

Disadvantages of the Fixed Percentage Contract

One disadvantage of the fixed percentage contract as it is outlined above is the lack of a provision for adjustment in cases where the individual grower's yield differs greatly from the average yield for the area. Production practices and conditions may vary considerably within the area and there may be individual growers with hardship cases. The problem is not insurmountable, however. For instance, the parties to the contract might agree that certain adjustments would be made in the amount to be delivered if the yield obtained by the grower was substantially below the indicated area average.

Suppose the grower holds a contract to deliver one-half of the production from 100 acres based on an estimated average yield of 150 bags per acre for the Hastings area. This would fix the amount to be delivered at 7,500 bags. But due to disease or some other adversity it is possible that the total production of the individual may be less than the 7,500 bags required to fill the contract. To provide a basis for dealing with such contingency, the contract might specify that certain adjustments would be made if the yield obtained by the individual differed by more than 25 percent from the average area yield. It is assumed the burden of proof that the specified difference had been exceeded would rest with the grower.

Another difficulty in trying to use the fixed percentage contract is related to the variation of quality between years. Historically, most contracts in the area have called for U. S. No. 1, Size A, potatoes. Such contract provisions may work a hardship on growers in years when the quality of the crop is relatively low. One way to add some flexibility to the contract would be to insert provisions allowing the grower to substitute lower grades at discounted prices.

CHAPTER V

DISTRIBUTION OF SALES

The increase in the number of handlers of Hastings potatoes in recent years, together with the growing importance of the processed market relative to the fresh market, have resulted in important changes in the distribution of the area's crop. Little information was available, prior to this study, regarding the extent of these changes in distribution. In discussing the desirability of a Federal Marketing Order for potatoes, one of the areas where information appeared to be lacking was that relating to distribution of the crop by type of handler, type of buyer and ultimate utilization of potatoes. A number of conflicting answers and opinions were forthcoming to such questions as, (a) how many growers sold their own potatoes, (b) how many handlers, other than growers, operated in the area, (c) what proportion of total volume went to different types of buyers, and (d) what proportion of total volume went to the fresh market versus the processed market. An attempt is made in this chapter to supply answers to these questions.

Number of Growers Patronizing Specified Handlers

Most growers in the Hastings area used only one type of handler for their output (Table 30). The number of growers selling all their own potatoes and the number having all sales made by other agents increased during the period in contrast to a decrease in the number

TABLE 30.--Estimated Number of Growers Utilizing Single Specified Types of Handlers and Number of Growers Utilizing Specified Combinations of Handlers, Hastings Area, Florida 1954-58.[a]

Item	Year				
	1954	1955	1956	1957	1958
All sales made by:					
Grower-handler	22	25	27	27	27
Cooperative	106	96	92	92	96
Other agents[b]	78	75	98	107	100
Total	206	196	217	226	223
All sales made by a combination of:					
Grower-handler and cooperative	5	13	16	15	13
Grower-handler and other agents	5	5	10	7	9
Cooperative and other agents	8	15	8	17	21
Total	18	33	34	39	43

[a] Computed from Table 65.

[b] Corporations, brokers, private individuals, etc.

having all sales made by cooperatives. However, the greatest relative change occurred in the number of growers utilizing various combinations of handlers. A total of 43 growers used two types of handlers to dispose of their potatoes in 1958 compared with only 18 in 1954.

For a given type of handler, the total number of growers for which all sales were made, plus the number for which some portion of the crop was sold, yields the total number of growers serviced (Table 31). There was an upward trend in the number of growers serviced by each type of handler during the 5-year period. Part of the increases occurred due to new growers starting production during the period while part was due to increasing number of growers utilizing more than one type of handler. An exception to the upward trend was found in the large size group where the index of the number of growers selling their own potatoes declined from 108 in 1953-54 to 92 in 1957-58. The

TABLE 31.--Estimated Number of Potato Growers Serviced by Each Type of Handler in 1957-58 and Indexes of the Number Serviced, by Type of Handler and by Size of Farm, 1953-54 to 1957-58, Hastings Area, Florida.

Item and year	Size of farm			
	Small	Medium	Large	All farms
Total number of growers in 1957-58:[a]				
Selling own potatoes	15	22	12	49
Sales made by cooperative	95	27	8	130
Sales made by other agents	88	27	16	131
Index of number of growers selling own potatoes:[b]				
1953-54	52	60	108	71
1954-55	91	89	108	95
1955-56	143	101	108	117
1956-57	117	119	85	108
1957-58	97	131	92	108
Index of number of growers for whom cooperatives sold:[b]				
1953-54	102	81	86	96
1954-55	103	99	86	101
1955-56	91	110	86	95
1956-57	98	110	103	101
1957-58	106	99	138	106
Index of number of growers for whom other agents sold:[b]				
1953-54	76	92	81	80
1954-55	86	80	81	84
1955-56	103	101	103	102
1956-57	118	113	118	117
1957-58	118	113	118	117

[a] Computed from Table 65.

[b] Average of 5-year period 1953-54 to 1957-58 = 100.

relative increase in the number of growers serviced by cooperatives was less than for either of the other two types of handlers.

Reasons given by growers interviewed for selling their own potatoes varied among size groups. Producers in the small farm group indicated they did their own selling to avoid waiting for payment or

else because they distrusted other handlers. In the medium farm group, some growers were selling in order to save marketing charges while others were selling because their regular sales agent could not dispose of all their potatoes. Growers in the large farm group generally mentioned their long selling experience and market contacts as the reason for handling their own sales.

Volume of Sales by Type of Handler

Although the number of growers involved in selling potatoes increased during the 5-year period, grower sales as a proportion of total sales remained relatively stable (Table 32). On the other hand, there was a decrease in the proportion of total sales accounted for by cooperatives and a corresponding increase registered by other agents.

TABLE 32.--Estimated Total Volume of Sales and Percentage Distribution, by Type of Handler, Hastings Area, Florida, 1954-1958.[a]

Type of handler	Year				
	1954	1955	1956	1957	1958
	(Hundredweights)				
Grower-handler	918,282	1,084,883	1,162,735	1,072,961	1,077,319
Cooperative	1,200,188	1,290,915	1,296,989	1,262,308	1,214,501
Other agents	1,022,409	1,088,888	1,276,574	1,628,246	1,421,835
Total	3,140,879	3,464,686	3,736,298	3,963,515	3,713,655
	(Percent)				
Grower-handler	29.2	31.3	31.1	27.1	29.0
Cooperative	38.2	37.3	34.7	31.8	32.7
Other agents	32.6	31.4	34.2	41.1	38.3
Total	100.0	100.0	100.0	100.0	100.0

[a] Computed from Table 66.

The contribution to the total sales volume of the various types of handlers differed greatly among size of farm groups (Table 33). On the

TABLE 33.--Estimated Total Potato Sales Volume by Type of Handler and Percentage Distribution by Size of Farm, Hastings Area, Florida, 1954 to 1958.[a]

Type of handler and year	Total sales volume	Size of farm			All farms
		Small	Medium	Large	
	(Cwts.)	(Percent)	(Percent)	(Percent)	(Percent)
Grower-handler					
1954	918,282	4.8	26.4	68.8	100
1955	1,084,883	8.2	27.9	63.9	100
1956	1,162,735	6.7	30.1	63.2	100
1957	1,072,961	9.1	28.8	62.1	100
1958	1,077,319	9.7	31.2	59.1	100
5-year average	1,063,236	7.7	29.0	63.3	100
Cooperative					
1954	1,200,188	55.8	32.2	12.0	100
1955	1,290,915	52.9	36.2	10.9	100
1956	1,296,989	54.0	34.0	12.0	100
1957	1,262,308	55.0	34.3	10.7	100
1958	1,214,501	54.3	32.1	13.6	100
5-year average	1,252,980	54.4	33.8	11.8	100
Other agents					
1954	1,022,409	31.3	33.7	35.0	100
1955	1,088,888	32.4	32.2	35.4	100
1956	1,276,574	41.1	23.5	35.4	100
1957	1,628,246	29.7	33.3	37.0	100
1958	1,421,835	33.3	30.0	36.7	100
5-year average	1,287,590	33.5	30.5	36.0	100

[a] Computed from Table 66.

average, the large farm group accounted for almost two-thirds of the total grower-handler sales volume. However, there was a definite downward trend in the proportion of grower-handler sales originating in the large farm group during the period. Small and medium farms showed an upward trend in their relative contribution to total grower-handler sales.

Small farms accounted for the greatest proportion of cooperative sales, averaging about 54 percent over the 5-year period. Large farms

accounted for only about 12 percent of cooperative sales. The relative contributions of the various groups to total cooperative sales remained fairly stable during the period.

Approximately one-third of the total volume of other agents originated in each of the three farm groups with the relative contribution of the different groups remaining fairly stable throughout the period.

Volume of Sales by Type of Buyer

Due to limited reousrces it was not considered feasible to obtain data on volume of sales by type of buyer for the entire 5-year period. Furthermore, growers experienced difficulty in some cases when attempting to estimate the proportion of their sales going to different buyers. Hence, data were obtained only for 1957 and 1958. Buyers were classified into five types; truckers, retailers, wholesalers, processors, and others. Truckers were defined as motor vehicle operators with the vested authority to bargain for potatoes and make direct cash settlement with the handler upon removal of the potatoes. Few growers appeared to know the ultimate destination of potatoes sold to truckers. Retailers were defined as buyers engaged directly in the retail of potatoes to consumers in the fresh form. Wholesalers were those buyers that purchased potatoes for resale to buyers other than ultimate consumers. Processors were those buyers that purchased potatoes for the purpose of subjecting them to further processing before selling them to retailers, wholesalers, or consumers. Other buyers included all those which could not be classified under one of the foregoing types.

The relative importance of various types of buyers differed substantially with respect to particular types of handlers and also

between types of handlers (Table 34). Processors constituted the most important outlet for grower-handler sales, accounting for about 55 percent in 1958. This was about 10 percent higher than in the previous

TABLE 34.--Volume of Sales and Percentage Distribution Among Specified Buyers, by Type of Handler, Hastings Area, Florida, 1957 and 1958.

Type of handler and type of buyer	Total volume		Percent of total	
	1957	1958	1957	1958
	(Hundredweights)		(Percent)	
Grower-handler:				
Trucker	93,330	62,752	8.7	5.8
Retailer	231,994	119,527	21.6	11.1
Wholesaler	161,616	205,723	15.1	19.1
Processor	487,258	596,068	45.4	55.3
Other	98,761	93,247	9.2	8.7
All buyers	1,072,959	1,077,317	100.0	100.0
Cooperative:[a]				
Trucker	-	-	-	-
Retailer	200,519	83,585	17.2	8.1
Wholesaler	337,019	241,060	28.9	23.5
Processor	402,413	345,720	34.5	33.7
Other	227,141	356,560	19.4	34.7
All buyers	1,167,092	1,026,925	100.0	100.0
Other agents:[b]				
Trucker	-	-	-	-
Retailer	292,333	109,226	29.9	18.7
Wholesaler	245,439	126,920	25.1	21.7
Processor	216,539	153,801	22.1	26.4
Other	223,489	193,527	22.9	33.2
All buyers	977,800	583,474	100.0	100.0
All handlers:				
Trucker	93,330	62,752	2.9	2.3
Retailer	724,846	312,338	22.5	11.6
Wholesaler	744,074	573,703	23.1	21.4
Processor	1,106,210	1,095,589	34.4	40.8
Other	549,391	643,334	17.1	23.9
All buyers	3,217,851	2,687,716	100.0	100.0

[a] Based on total sales taken from cooperative records for 1957 and 1958.

[b] Based on total sales taken from records of other agents included in the handler sample.

year. The proportion of grower-handler sales going to processors was greater than that for cooperatives or other handlers. Trucker buyers were relatively unimportant in terms of the volume of potatoes they purchased. They accounted for less than 10 percent of grower-handler sales and made no purchases from cooperatives or from other handlers included in the study.

Processor buyers were the most important outlet for cooperative sales in 1957, although they took second place to other buyers in 1958. Retailers were the least important cooperative outlet in both years.

Sales of other agents were more evenly distributed among the various buyers than were those of growers or cooperatives. Retailers were the largest volume buyers from other agents in 1957, whereas other buyers were most important in 1958. Considering handlers as a whole and volumes of both 1957 and 1958, it appears that processors were by far the largest single outlet for Hastings potatoes. Retailers, wholesalers, and other buyers had about equal positions, while truckers took less than 3 percent of total sales.

Buyer-handler relationships can be clarified by considering the distribution of total purchases among different types of handlers (Figure 4). Trucker buyers obtained their entire supply direct from grower-handlers in 1957 and 1958. All other types of buyers obtained a part of their supply from each of the three types of handlers. Retailers acquired about 25 percent of their supply from cooperatives with the balance about equally divided between grower-handlers and other handlers. Cooperatives, on the other hand, furnished the largest proportion of the purchases of wholesalers and other buyers. Grower-handlers were the most important source of supply for processors,

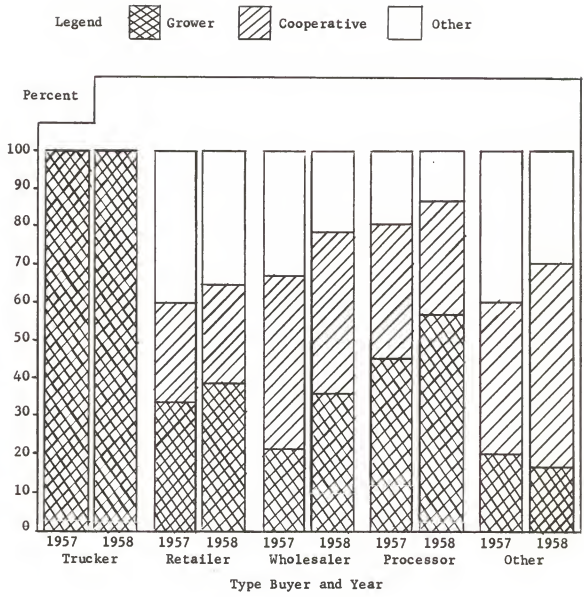

Figure 4. Percentage Distribution of Total Purchases of Specified Buyers, by Type of Handler, Hastings Area, Florida, 1957 and 1958.

Source: Table 34.

followed by cooperatives. The relative contribution of grower-handlers to the purchases of retailers, wholesalers, and processors was greater in 1958 than in 1957 while the contribution of other handlers showed a corresponding decline from 1957 to 1958.

The relative importance of various types of buyers for each size of farm could be ascertained only for grower-handlers (Table 35).

TABLE 35.--Percentage Distribution of Total Grower Sales Among Specified Buyers, by Size of Farm, Hastings Area, Florida, 1957 and 1958.[a]

Type of buyer	Size of farm					
	Small		Medium		Large	
	1957	1958	1957	1958	1957	1958
	(Percent)					
Trucker	-	-	4.6	3.1	11.9	8.2
Chain store	-	-	21.2	12.3	25.0	12.3
Wholesaler	8.5	2.7	2.3	2.4	21.9	30.6
Processor	62.9	69.7	56.2	70.7	37.9	44.9
Other	28.6	27.6	15.7	11.5	3.3	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

[a] Computed from Table 68.

Operators of small farms utilized only three types of outlets with about two-thirds of their volume going to processor buyers. Operators of medium farms also relied heavily on processor buyers but had also been able to get a share of the chain store market. Truckers and wholesale buyers obtained only a small proportion of the volume sold by the medium farm group. Although processor buyers acquired the largest share of the volume sold by the large farm group, they were not nearly as important in this group as they were in the small and medium farm groups. The total volume of the large farm group was more evenly distributed among buyers than that of the other two groups.

Sales by Type of Market

Potatoes may be purchased for consumption in either the fresh form or some processed form such as flakes, chips, or various frozen products. Thus, potato growers commonly think of two markets; the fresh market and the processed market.

Of the three types of handlers, cooperatives had the largest share of their volume absorbed by the fresh market in 1957 and 1958 (Table 36).

Table 36.--Estimated Total Potato Sales by Type of Handler and Percent of Sales to the Fresh Market, Hastings Area, Florida, 1957 and 1958.

Item and type of handler	Year	
	1957	1958
	(Hundredweights)	
Total volume sold by:		
Grower-handlers	1,072,959	1,077,317
Cooperatives	1,167,092	1,026,925
Other agents	977,800	583,474
All handlers	3,217,851	2,687,716
Total volume sold to fresh market by:		
Grower-handlers	451,605	337,398
Cooperatives	592,550	482,852
Other agents	444,429	202,073
All handlers	1,488,584	1,022,323
	(Percent)	
Volume sold to fresh market as a percent of total volume sold by:		
Grower-handlers	42.1	31.3
Cooperatives	50.8	47.0
Other agents	45.5	34.6
All handlers	46.3	38.0

For each type of handler, the proportion of total sales going to the fresh market was less in 1958 than in 1957.

The proportion of grower-handler sales going to the fresh market dropped by about 10 percentage points for each farm group in 1958

compared with 1957 (Table 37). Only 2.7 percent of grower-handler

TABLE 37.--Estimated Total Potato Sales by Growers and Percent of Sales to the Fresh Market, by Size of Farm, Hastings Area, Florida, 1957 and 1958.

Item and size of farm	Year	
	1957	1958
	(Hundredweights)	
Total grower-handler sales volume:		
Small	97,325	103,917
Medium	308,919	336,237
Large	666,717	637,165
All farms	1,072,961	1,077,319
Grower-handler sales to fresh market:		
Small	10,803	2,823
Medium	78,461	51,374
Large	362,341	283,201
All farms	451,605	337,398
	(Percent)	
Volume sold to fresh market as a percent of total volume sold:		
Small	11.1	2.7
Medium	25.4	15.3
Large	54.3	44.5
All farms	42.1	31.3

sales from small farms entered the fresh market in 1958 compared with 11.1 percent in 1957. For all farm groups, 42.1 percent of total sales were made to the fresh market in 1957 and only 31.3 percent in 1958.

Grade and Size Distribution by Type of Market and Type of Buyer

Potatoes produced in the Hstings area were classified by packers as (1) U. S. No. 1, size A, (2) U. S. No. 1, size B, (3) Percentage U. S. No. 1, (4) Utilities, and (5) Creamers. Requirements for U. S. No. 1, size A and U. S. No. 1, size B were the same as those specified

in current United States Standards for potatoes. The Percentage U. S. No. 1 pack was commonly known as a "chipper pack" in the area, however, this does not mean that all of this grade of potatoes was sold to chippers.

The Percentage pack was so called because it contained potatoes which did not meet the specified requirements for U. S. No. 1 grade. The percent of the package which would meet the requirements of the U. S. No. 1 grade varied among handlers. In some cases, the sales invoice specified the percentage of U. S. No. 1 potatoes in the pack, such as "80 percent U. S. No. 1,""85 percent U. S. No. 1," etc. In other cases the sales invoice carried only the notation, "percentage potatoes."

The utility grade classification as used in the Hastings area fits into the unclassified category listed in the U. S. Standards for potatoes. The range in the quality of utilities among packers appeared to be rather wide, containing an estimated average of about 30 percent U. S. No. 1 potatoes.[1] The creamer grade classification is also unclassified under the U. S. Standards for potatoes. Creamers were exceptionally small potatoes. They were usually canned as whole potatoes or used in certain prepared foods such as stews and soups. Generally, they were run across a chain, sacked and shipped to a canner who weighed them on arrival and deducted the amount of shrinkage.[2]

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[1] From a statement by B. R. Yarborough, General Manager, Hastings Potato Growers Association, Hastings, Florida.

[2] Ibid.

This section deals only with the sales of the seven selling agencies surveyed, since grade and size classifications were not obtained for grower-handler sales.

The total volume of potatoes sold by the seven selling agencies was considerably lower in 1958 than in 1957 (Table 38). A large part

TABLE 38.--Volume of Sales and Percent Distribution to Fresh and Processed Markets, by Grade and Size, Seven Selling Agencies, Hastings Area, Florida, 1957 and 1958.

Grade and size	Volume of sales		Percent of total	
	1957	1958	1957	1958
	(Hundredweights)			
		Fresh market		
U. S. No. 1				
Size A	875,894	468,718	57	45
Size B	50,246	42,250	48	44
Percentage U. S. No. 1	51,333	157,324	25	48
Utilities	59,506	16,633	22	21
Creamers	-	-	-	-
All grades and sizes	1,036,979	684,925	48	43
		Processed market		
U. S. No. 1				
Size A	654,193	574,411	43	55
Size B	53,799	54,715	52	56
Percentage U. S. No. 1	156,030	168,091	75	52
Utilities	211,355	61,227	78	79
Creamers	32,536	67,030	100	100
All grades and sizes	1,107,913	925,474	52	57
		All markets		
U. S. No. 1				
Size A	1,530,087	1,043,129	100	100
Size B	104,045	96,965	100	100
Percentage U. S. No. 1	207,363	325,415	100	100
Utilities	270,861	77,860	100	100
Creamers	32,536	67,030	100	100
All grades and sizes	2,144,892	1,610,399	100	100

of the decline was in the volume sold to the fresh market while only a slight decline occurred in the volume sold to the processed market.

Only a little more than one-half as many U. S. No. 1, size A potatoes were sold to the fresh market in 1958 compared with 1957. On the other hand, the volume of Percentage U. S. No. 1 potatoes sold to the fresh market increased about three-fold in 1958. No sales of creamers were made to the fresh market in either year.

It may be more meaningful to consider the relative volume of each size and grade of potatoes sold to the fresh market and processed market in 1957 and 1958, since total volume was considerably lower in 1958 (Figure 5). The only two outstanding changes in distribution between the fresh and processed markets from 1957 to 1958 was the drop in the proportion of U. S. No. 1, size A going to the fresh market in 1958 and the rise in the proportion of Percentage U. S. No. 1 sold to the fresh market in 1958.

There was wide variation in the proportion of different grades and sizes accounted for by various types of buyers (Table 39). With the exception of the Percentage grade in 1958, sales of U. S. No. 1, size A potatoes were more evenly distributed among the different buyers than were the other grades and sizes. Over four-fifths of the creamers were taken by processors.

U. S. No. 1, size A potatoes comprised 90 percent of the purchases made by retailers (Table 40). The relative importance of different grades and sizes did not vary greatly between processors, wholesale receivers, and local buying brokers. Retailers and other buyers did not purchase any creamer potatoes.

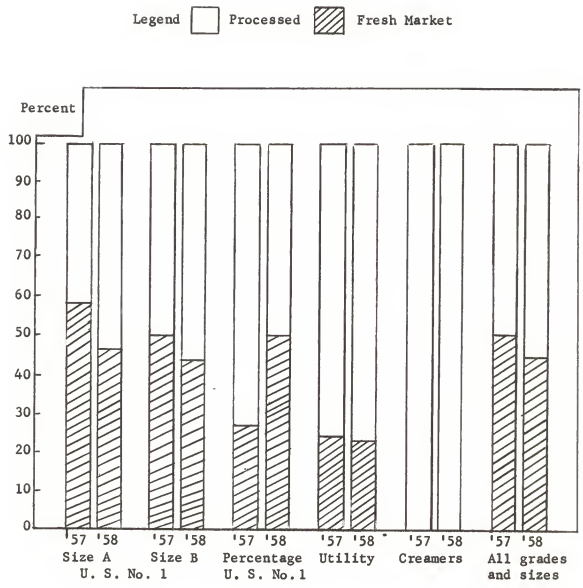

Figure 5. Percentage Distribution of Total Potato Sales to Fresh and Processed Markets, by Grade and Size, Seven Selling Agencies, Hastings Area, Florida, 1957 and 1958.

Source: Table 38.

TABLE 39.--Percentage Distribution of Various Grade and Sizes of Potatoes, by Type of Buyer, Seven Selling Agencies, Hastings Area, Florida, 1957 and 1958.[a]

Grade, size and year	Type of buyer: Retailer	Processor	Wholesale receiver	Local buying broker	Other	All buyers
			(Percent)			
U. S. No. 1:						
Size A:						
1957	29	27	26	15	3	100
1958	16	31	22	26	5	100
Size B:						
1957	9	43	37	10	-[b]	100
1958	9	27	30	29	5	100
Percentage U. S. No. 1:						
1957	5	31	25	39	-[b]	100
1958	3	24	26	24	23	100
Utility:						
1957	8	28	34	29	-[b]	100
1958	6	26	19	47	2	100
Creamers:						
1957	-	81	8	11	-	100
1958	-	81	9	10	-	100
All grades and sizes:						
1957	23	29	27	19	2	100
1958	12	31	23	26	8	100

[a] Computed from Table 69.

[b] Less than 0.5 percent.

TABLE 40.--Relative Importance of Each Grade and Size of Potatoes in the Total Purchases of Various Types of Buyers, Seven Selling Agencies, Hastings Area, Florida, Average for 1957 and 1958.[a]

Grade and size	Type of buyer					
	Re-tailer	Pro-cessor	Wholesale receiver	Local buying broker	Other	All buyers
	(Percent)[b]					
U. S. No. 1:						
Size A	90	65	66	61	54	69
Size B	3	6	7	5	3	5
Percentage	3	13	15	19	41	14
Utility	4	9	11	14	2	9
Creamers	-	7	1	1	-	3
Total	100	100	100	100	100	100

[a] Computed from Table 69.

[b] Based on combined 1957 and 1958 purchases.

CHAPTER VI

OPINIONS AND ATTITUDES OF GROWERS AND SHIPPERS RELATIVE TO MARKET ORGANIZATION AND PRACTICES

The opinions and attitudes of individuals participating in a given industry tend to influence the direction and extent of changes in the industry. Information regarding these opinions is needed to properly ascertain the basis of current conditions and evaluate alternative courses of future action. The need for information concerning opinions and attitudes becomes more acute in cases where group action is considered as an alternative approach to major industry problems. Such was the case in the Hastings area when this study was initiated.

Problems as Seen by Growers

Sample growers were asked three questions in an attempt to find out what they considered to be the problems confronting the potato industry in the Hastings area. The questions were: (1) What do you think is the most critical problem facing the potato industry in this area?, (2) What is the second most critical problem?, and (3) What are other problems you consider important?

Most Critical Problem

About 40 percent of the growers held the opinion that the most critical problem was that of too many potatoes (Table 41). Less than 10 percent of the growers were agreed on any one of the other problems mentioned as most critical. Operators of small and medium farms

TABLE 41.--Problems Facing the Hastings Potato Industry, as Seen by Growers, By Size of Farm, Hastings Area, Florida, 1958.

Question and response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
What is the most critical problem facing the potato industry in this area?				
Too many potatoes	21	14	2	37
Too many handlers	3	4	2	9
Poor quality	4	2	2	8
Lack of competition in buying	5	1	1	7
Price too low	4	-	2	6
Competition from old potatoes	2	2	1	5
Contract growing	3	2	-	5
Poor market organization	3	-	2	5
Other	7	-	4	11
Total	52	25	16	93
What is the second most critical problem?				
Too many handlers	6	4	2	12
Poor quality	6	1	4	11
Poor market organization	5	4	1	10
Too many potatoes	5	3	1	9
Contracting	4	-	2	6
Chippers growing own potatoes	5	-	-	5
Competition from old potatoes	3	-	1	4
Other	6	5	1	12
Total[a]	40	17	12	69
What are other important problems?				
Poor quality	4	3	2	9
Too many handlers	5	-	2	7
Loss in fresh market trade	2	3	1	6
Contracting	3	2	-	5
Too may potatoes	3	-	1	4
Speculative production	3	-	-	3
Poor market organization	-	3	-	3
Other	2	2	2	6
Total[b]	22	13	8	43

[a] Only 69 of the 93 growers responded to this question.

[b] Thirty-five of the 93 growers responded to this question. Some respondents listed more than one of the problems specified.

appeared to be in closer agreement than those of large farms as to what constituted the most critical problem. No more than two operators of large farms were in agreement regarding any one of the various problems mentioned as most critical.

Second Most Critical Problem

Of the 93 growers, 69 rendered opinions as to what the second most critical problem was, while 24 growers saw no problem other than the one they had stated as most critical (Table 41). Respondents were not as closely agreed as to what constituted the second most critical problem as they were concerning the most critical problem. However, the four problems mentioned most frequently accounted for a total of 61 percent of the growers specifying a second most critical problem. Examination of the responses indicated that those growers who were agreed as to the most critical problem tended to have a variety of opinions as to what constituted the second most critical problem.

Other Problems

Of the 69 growers that cited a most critical and a second most critical problem, 35 stated additional problems (Table 41). Generally, problems listed were those that other growers had already stated in answer to the first two questions. Loss in fresh market trade and speculative production were the only new problems mentioned by more than one grower.

A summation of the total number of times a problem was mentioned indicated to some extent its relative importance in the opinion of growers. The five most frequently mentioned problems were: (1) too many potatoes, (2) too many handlers, (3) poor quality, (4) contracting, and (5) poor market organization (Table 42).

Opinions About Production

The opinion of growers that excessive production was a major problem was substantiated by responses to a direct question concerning the quantity of potatoes being grown in the Hastings area. About 81 percent of the growers felt production should be decreased while the remainder had not formed an opinion or else thought production should remain at the current level (Table 43). The chi-square value indicates that response to this question was not related to size of farm.[1]

TABLE 42.--The Five Most Frequently Mentioned Problems by Sample Potato Growers, By Size of Farm, Hastings Area, Florida, 1958.[a]

Problem	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Too many potatoes	29	17	4	50
Too many handlers	14	8	6	28
Poor quality	14	6	8	28
Poor market organization	8	7	3	18
Contracting	10	4	2	16

[a] No other problem was mentioned more than nine times.

TABLE 43.--Response to the Question, "How do you feel about the amount of potatoes being grown in this area?" by Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Should be decreased	44	20	11	75
Should remain same or don't know	8	5	5	18
Total	52	25	16	93

$X^2 = 2.00$, not significant at 75 percent level.

[1] See footnote 2, page 52

Growers were far from general agreement concerning the trend in quality of field-run potatoes during the 10 years preceding 1958 (Table 44). Combining the frequencies of the first two responses gave a total of 44 growers for all size groups who thought quality of field-run potatoes had improved. Summing the frequencies of the second and third responses indicated that a total of 42 growers thought quality had not improved. The chi-square value indicated that response was not affected by size of farm.

TABLE 44.--Response to the Question, "During the last 10 years, do you think the quality of potatoes produced in the Hastings Area has tended to get, (a) much better, (b) some better, (c) no better, or (d) worse?" By Size of Farm, 93 Growers, Hastings Area, Florida, 1958.[a]

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Much better	4	3	4	11
Some better	22	7	4	33
No better	8	9	5	22
Worse	13	5	2	20
Don't know[b]	5	1	1	7
Total	52	25	16	93

$X^2 = 1.25$, not significant at the 50 percent level.

[a] Responses number 1 and 2 combined for chi-square test. Responses number 3 and 4 also combined for chi-square test.

[b] Not included in chi-square test.

Most of the growers who thought quality had improved attributed the change to such factors as; (a) better insect and disease control, (b) better growing methods, and (c) better handling methods. Growers who thought quality had not improved cited such contributing causes as; (a) too much fertilizer, (b) bad seed, (c) more disease, and (d) too much irrigation.

Growers were also asked to give their opinion relative to the trend in quality of pack put up in the Hastings area during the 10 years preceding 1958. The distribution of responses was similar to that regarding the trend in quality of field-run potatoes. A total of 47 growers thought the quality of pack had improved, while 34 felt that quality had not improved (Table 45). The chi-square value leads to the conclusion that response was not affected by size of farm.

TABLE 45.--Response to the Question, "During the last 10 years, do you think the quality of potatoes packed in the Hastings area has tended to get; (a) much better, (b) some better, (c) no better, or (d) worse?" by Size of Farm, 93 Growers, Hastings Area, Florida, 1958.[a]

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Much better	3	5	2	10
Some better	22	7	8	37
No better	6	6	1	13
Worse	14	6	1	21
Don't know[b]	7	1	4	12
Total	52	25	16	93

$X^2 = 3.81$, not significant at the 90 percent level.

[a] Responses number 1 and 2 combined for chi-square test. Also responses number 3 and 4 combined for chi-square test.

[b] Not included in chi-square test.

Growers who thought pack quality had improved generally felt that major factors responsible for the change were increasing competition among handlers in disposing of potatoes and better packing equipment and methods. Among those growers who thought pack quality had not improved, the cause most often mentioned was that packers were turning out more chipper packs. They believed this resulted in a generally

lower quality pack going out of the area. Poor quality of field-run potatoes and washing potatoes were also cited by a few growers as causes of lower pack quality.

Opinions About Marketing and Distribution

Several questions were designed to ascertain the thinking of growers relative to various aspects of selling and distribution. The assumption was that responses to these questions would afford useful information in pointing up areas of agreement or disagreement which would have to be contended with in proposing changes in marketing methods and practices.

Effect of Increasing Number of Handlers

About 81 percent of the growers felt prices had been lowered as a result of the increased number of handlers (Table 46). The practice of price cutting by handlers was believed to be largely responsible for market price declines. Some operators of small farms thought the increase in number of handlers had resulted in some flooding of the market and consequent drops in price. Most growers felt a smaller number of handlers in the Hastings area would be desirable.

Feasibility of a Central Sales Agency

In order to obtain an indication of the attitude of growers relative to the feasibility of a plan for marketing that would require the cooperation of most, if not all, producers in the area, two questions were asked concerning a central sales agency. Response to the first question indicated a rather low level of confidence in the probability of successfully operating a central sales agency in the area (Table 47). About 56 percent of the growers thought that a poor chance existed,

TABLE 46.--Opinions of Growers Regarding the Number of Handlers in Area, By Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Question and response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
What do you think has been the effect on the market of an increase in the number of growers handling their own potatoes:				
Lowered price due to price cutting	40	21	14	75
Price broke due to flooding market	6	-	-	6
Had no effect on market	3	4	1	8
Other	2	-	1	3
Don't know	3	-	1	4
Total[a]	54	25	17	96
Would a smaller number of handlers in the Hastings area be:				
Highly desirable	36	16	7	59
Desirable	11	3	7	21
Not desirable	2	2	-	4
No opinion	3	4	2	9
Total	52	25	16	93

[a] Some growers cited more than one effect.

TABLE 47.--Response to the Question, "What do you think is the chance that a central sales agency could be set up and operated successfully in this area?" by Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Excellent chance	-	2	3	5
Good chance	11	3	3	17
Fair chance	7	6	-	13
Poor chance	30	13	9	52
Don't know	4	1	1	6
Total	52	25	16	93

while 38 percent cited chances ranging from excellent to fair. Of the 52 growers who thought a poor chance existed, 50 gave as reason for their opinion the belief that growers and other industry participants would not cooperate in such a program. Those who thought the chances of successful operation of a central sales agency ranged from excellent to fair generally based their opinion on the belief that industry conditions had deteriorated to the point where the need for some organized program was widely recognized. Answers to the second question indicated 69 percent of the sample growers would support a central sales agency if one were set up. Only 5 percent said they would not support such an agency and 26 percent were undecided.

Marketing Agreement[2]

Growers gave a variety of answers when asked to state the particular problems they felt a marketing agreement could help solve (Table 48). About one-third of the growers felt that a marketing agreement could be of use in improving the quality of potatoes going on the market by eliminating the sale of culls or other low quality potatoes. Almost an equal proportion were of the opinion that a marketing agreement would aid in getting a more standardized product on the market. Some growers felt that price fluctuations, market gluts, and disorganized selling could be reduced through use of a marketing agreement. About 11 percent of the growers felt that a marketing agreement would not be

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[2] Marketing agreement, as here used, referred to the Federal marketing agreement and order being considered by growers at the time the study was made. For a more detailed discussion of Federal marketing agreements and orders, see Chapter VII and Appendix D.

TABLE 48.--Response to the question, "What particular marketing problems do you think a marketing agreement could help solve?" By Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Poor quality	16	8	8	32
Non-standardized product	13	7	6	26
Unstable prices	5	3	7	15
Market gluts	7	5	1	13
Disorganized selling	6	1	1	8
Wouldn't help solve any problem	4	5	1	10
Don't know	11	2	1	14
Total[a]	62	31	25	118

[a] Some growers cited more than one problem.

useful in solving any problems. Fifteen percent had not reached a decision on the marketing agreement question.

Over one-half of the growers were of the opinion that no disadvantages would result from adopting a marketing agreement. A comparison between the number of growers who thought there would be some disadvantage associated with a marketing agreement and those who thought there would not be any disadvantages revealed almost equally divided opinions on the subject (Table 49). The chi-square value indicated that opinion was not affected by size of farm operated.

As seen by growers, the greatest disadvantage of a marketing agreement was the uncertainty of getting committee members who would do a good job in the implementation of the agreement (Table 50). Some individual growers simply doubted that committee members could be chosen which would be capable and willing to handle fairly the administration of an agreement. No more than six growers were agreed on any one of the other disadvantages mentioned.

TABLE 49.--Distribution of Grower Opinion Relative to the Disadvantage of a Marketing Agreement, By Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Opinion	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
No disadvantages	30	11	7	48
Some disadvantage	22	14	9	45
Total	52	25	16	93

$X^2 = 1.79$, not significant at the 75 percent level.

TABLE 50.--Response to the Question, 'What do you think would be the disadvantages of a marketing agreement?" By Size of Farm, 93 Growers Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Committee members might not do a good job	7	5	5	17
Hurt individual grower who had poor quality	6	-	-	6
Impose on independence of grower	4	1	1	6
Help our competitors	3	-	2	5
Too complicated	-	4	-	4
Market season is too short	-	1	1	2
No good if it covers only Florida	-	2	-	2
Other	2	2	2	6
No disadvantages	30	11	7	48
Total[a]	52	26	18	96

[a] Some growers cited more than one disadvantage.

Quality Regulation

One aspect of potato quality which concerned growers was that of maturity. This was a problem because of the rapid deterioration in

quality of potatoes harvested before they reached a mature stage of growth. Immature potatoes have a tendency to turn dark in color and become soft or spongy in a relatively short time after harvesting. One argument frequently heard was that retailers were losing confidence in Hastings area potatoes as a result of their experiences with immature potatoes. The problem of immaturity did not seem to be as important for potatoes sold to processors since they were normally converted to chips immediately upon receipt.

Historically, incentive to sell potatoes before they reached full maturity can be found in the usual behavior of prices. Although new red potatoes are available during the winter and early spring months from south Florida, the Hastings area has some of the earliest white potatoes grown in the United States. It has been characteristic for the price to be relatively high at the beginning of the Hastings area marketing season and then to decline rapidly as the season progressed. Toward the end of the season, prices usually rise substantially from the low levels reached when the major part of the crop is going to market. Although larger yields may be obtained if potatoes are allowed to mature, many growers felt the increased yield might be more than offset by the decline in unit price.

What did growers believe to be the effects of harvesting immature potatoes and what did they think could or should be done about regulating maturity? About three-fourths felt immature potatoes had adversely affected the fresh market (Table 51). Many of the same growers, on the other hand, thought immature potatoes were more desirable for chipping than mature potatoes. Several growers argued that immature potatoes were desirable for fresh market since they allegedly had fewer defects.

About 16 percent of the growers held the opinion that immature potatoes had not affected the market.

Grower opinion was about equally divided on the question of whether there was a need to regulate maturity (Table 52). The chi-square value indicated that response was affected by size of farm. A much higher proportion of small farm operators favored maturity regulation than was the case among operators of medium and large farms.

TABLE 51.--Response to the Question, "In your opinion, what is the effect on the market of digging potatoes before they are fully mature?" By Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Damage to fresh market because immature potatoes won't hold up	42	19	9	70
Good for chip market because immature potatoes make better chips	15	7	7	29
Good for market because immature potatoes have fewer defects	-	-	3	3
Helps prevent flooding market later in season	-	-	1	1
Has no effect on market	9	5	1	15
Don't know	1	-	-	1
Total[a]	67	31	21	119

[a] Some growers cited more than one effect.

Growers favoring maturity regulation were almost unanimous in stating that damage to the fresh market from immature potatoes was the reason for favoring regulation. Of the 45 growers opposed to maturity regulation, 16 stated that the lack of a good measure of maturity was

TABLE 52.--Response to the Question, "Do you think it would be desirable to have some standard regulating the maturity of potatoes sold?" By Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Yes	29	9	5	43
No	20	14	11	45
Don't know[a]	3	2	-	5
Total	52	25	16	93

$X^2 = 4.93$, significant at the 90 percent level.

[a] Not included in chi-square test.

the reason for their oposition.[3] Most of these growers felt that degree of skinning was not a good indication of maturity. For example, it was pointed out by some growers that fully mature potatoes would skin if they were harvested the day following a heavy rain. Twelve growers voiced opposition to maturity regulation on the grounds that the marketing season was too short for such regulation to be practical. These growers generally felt it was necessary to sell some immature potatoes in order to lessen the magnitude of supplies later in the season. Eight of the opposing growers believed the best solution was to let immature potatoes move freely on the market if buyers were willing to purchase them at acceptable prices. The other members of the opposition group gave various other reasons for being opposed to maturity regulation.

[3] There is only one reference to maturity in the current U. S. Standards for potatoes. This occurs in the specifications for the U. S. Fancy grade where it is required that potatoes be "fairly well matured." Section 51.1458 of said Standards defines "fairly well matured" to mean that not more than 10 percent, by weight, of the individual potatoes in the lot have more than one-fourth of the skin missing or feathered.

Fresh Market Sales

Until recent years, growers in the Hastings area were primarily concerned with the fresh market outlet for their potatoes. The relative importance of the processing segment has increased rapidly and in 1958, over one-half of the potatoes produced in the area was utilized by processors. One impression derived from visits to the area prior to the study was that a sizable number of growers lamented the declining relative importance of the fresh market.

It was found that 66 percent of the sample growers held the opinion that the proportion of the crop going to the fresh market should be increased (Table 53). Many of these growers expressed the feeling

TABLE 53.--Response to the Question, "How do you feel about the proportion of the Hastings potato crop going to the fresh market?" By Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Should be increased	28	19	14	61
Should be decreased	4	2	1	7
Should remain same	12	1	-	13
Don't know	8	3	1	12
Total	52	25	16	93

that fresh market buyers, especially those retailers who purchased in small volume, had been neglected in preference to processor buyers. Only seven growers felt that the proportion of the crop going to the fresh market should be decreased. The remaining 25 growers were about equally divided between those who thought the proportion going to the fresh market should remain about the same and those who had not come to a decision on the question.

The 74 growers, who thought the proportion of the crop going to the fresh market should remain about the same or increase, were asked to state the actions they believed necessary to expand fresh market sales relative to sales for processing (Table 54). Most frequently mentioned as means of expanding sales were quality improvement and advertising. Some growers felt that better sales organization and greater output of potatoes in consumer packages would increase sales to the fresh market. Sixteen growers did not know of any actions that might increase fresh market sales.

TABLE 54.--Response to the Question, "What do you think could be done to increase fresh market sales?" By Size of Farm, 74 Growers, Hastings Area, Florida, 1958.[a]

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Improve quality	15	13	5	33
Advertise	11	7	8	26
Better sales organization	2	4	2	8
Put up more consumer packs	5	-	1	6
Other	2	1	1	4
Don't know	6	7	3	16
Total[b]	41	32	20	93

[a] Actions necessary to increase fresh market sales were recorded only for those growers who specified that fresh market sales should be increased or remain about the same.

[b] Some growers named more than one necessary action.

Other Opinions

In addition to the questions considered above, several others were directed to growers. Opinions relative to these questions are discussed in this section.

The study revealed that 50 of the 93 sample growers held the opinion that available market news was adequate for information purposes (Table 55). Eleven of the 20 growers who thought market news was inadequate cited the belief that reported prices did not reflect prices at which most sales were made. These growers felt that actual prices received tended to be somewhat lower than reported prices for the majority of the volume sold. Two growers felt the reports were inadequate because they did not cover enough handlers. Two growers argued the reports were not very useful because market prices changed too frequently, resulting in reported prices being at variance with current prices.

TABLE 55.--Grower Opinion Concerning Available Market News, By Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Response	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Available market news is:				
Adequate	27	11	12	50
Inadequate	9	7	4	20
No opinion	16	7	-	23
Total	52	25	16	93

On the assumption that financing agencies will become more important in the future through supplying a larger proportion of the capital required by growers, it seems reasonable to expect that these agencies will take a more active roal in making production and marketing decisions. What did growers think about this possible development? A total of 59 growers were of the opinion that a tendency for financing agencies to become more dominant in decision making would be a disadvantage to growers. Generally these respondents felt the grower was

in a better position and more capable of making these decisions than the financing agency. Only 11 growers thought such a development would be advantageous. Twenty-three growers were unable to render an opinion on the question.

About 90 percent of the sample growers felt there was a need for regulation of the grade of potatoes going out of the area. Most of these growers thought strict regulation should be applied to all grades of potatoes.

CHAPTER VII

IMPROVING MARKET ORGANIZATION AND PRACTICES

The main problems facing the Hastings potato industry, as seen by growers, were: (a) too many potatoes, (b) too many handlers, (c) poor quality, (d) poor market organization, and (e) contracting. With the intense competition existing on the selling side of the market, it will be difficult for the Hastings area growers to solve their problems through individual action. The bargaining power of the individual grower cannot match that of the large volume buyers. There is no incentive for a grower to reduce his output since his action alone will not alter market prices. He has no assurance that other growers will reduce their output. Generally, the individual grower has no incentive to hold low quality potatoes off the market since he expects other growers to continue selling such potatoes as long as the price per unit exceeds the costs of harvesting and marketing.

Orderly marketing is not likely to be realized through individual action. There is a great deal of urgency in the search for buyers as growers try to dispose of a perishable product, especially in a relatively short marketing season. Some handlers are likely to get panicky and begin cutting prices more than the supply-demand situation justifies. Other handlers may feel they must meet the competition in order to move their potatoes. Since buyers from the Hastings area are undoubtedly in a much stronger bargaining position than sellers, it

appears that group action of some sort on the part of growers will be necessary to solve or mitigate the problems facing the industry.

Other groups of agricultural producers have employed various types of group action in attempting to solve problems similar to those facing the growers in the Hastings area. Three of the more popular approaches have been Federal marketing agreements and orders, central sales agencies, and grower bargaining associations. The purpose of this chapter is to appraise these approaches to marketing in terms of; (a) what they might be expected to accomplish, (b) requirements on the part of growers and handlers for successful operation, and (c) characteristics of the Hastings area which might affect success or failure of the venture.

Federal Marketing Agreement and Order

The authority for marketing agreements and orders is contained in the Agricultural Marketing Agreement Act of 1937. The act gives the Secretary of Agriculture the authority to enter into voluntary marketing agreements and to issue marketing orders.[1]

Marketing agreements and orders have been used rather extensively by agricultural producers. At the beginning of 1961, there were 41 fruit and vegetable and 80 milk orders in effect.[2] Many of the areas which produce late-crop potatoes have made use of marketing agreements

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[1] See Appendix D for details on the nature of marketing agreements and orders.

[2] W. E. Black, Clearing Hurdles to Expand Bargaining Power with Marketing Agreements and Orders (Paper presented at the annual meeting of the National Council of Farmer Cooperatives, New Orleans, La., January, 1961). Dr. Black was manager of a tomato marketing agreement in Florida from 1956 to 1959.

and orders. Four Federal orders on potatoes became effective just prior to World War II but were not operational until after the war. Six additional orders became effective and operative between 1948 and 1950.[3] Seven marketing agreement and order proposals were rejected by potato producers in 1950, alone.

Producers of white potatoes in Florida considered a marketing agreement and order in November, 1959. The proposed agreement and order covered all white potatoes grown in Florida east and south of the Suwannee River. This territory includes the Hastings area and the proposed agreement and order was promoted largely by producer and handler representatives from the Hastings area.

Representatives of the United States Department of Agriculture held a public hearing at Hastings, Florida, November 3-6, 1959, on proposed Marketing Agreement No. 137 and Order No. 60.[4] Subsequent to the hearing, a referendum was conducted among producers but the agreement failed by a very small margin to get enough votes so an order could be issued by the Secretary of Agriculture. Rejection of the agreement does not necessarily mean a similar proposal will not be considered again in the future.

What Might be Accomplished with a Federal Marketing Order for Florida White Potatoes

A marketing order, would allow regulation of marketing in several ways. Among other things, such an order would allow: (a) quality

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[3] R. W. Gray, V. L. Sorenson, and W. W. Cochrane, An Economic Analysis of the Impact of Government Programs on the Potato Industry of the United States (North Central Regional Publication No. 42, University of Minnesota, Technical Bulletin 211, June 1954).

[4] National Archives of the United States, Federal Register, Volume 25, No. 31 (Office of the Federal Register, Washington, February 13, 1960).

regulation, (b) quantity regulation, (c) diversion of surpluses, and (d) pack regulation.

Quality Regulation

This type of regulation is frequently used to prevent inferior grades, sizes or qualities from being shipped to market. Such regulation would be expected to improve buyer confidence in Florida potatoes. As Black has pointed out, poor quality cannot be made better by a marketing order but its shipment to market can be restricted or prohibited.[5] It is assumed that consumers as a whole would buy larger amounts of high quality potatoes at a given price, or the same amount at a higher price, if all the low quality potatoes were restricted from market.

In practice, it may not always be a simple matter to remove the low quality potatoes from market. In fact, some writers have maintained that this constituted the dominant operational problem of the potato marketing orders in the late potato producing areas.[6] The problem arises because of geographical differences in composition of the crop by size and quality. Low quality potatoes may tend to be concentrated in a particular section of the production area covered by the order and a blanket restriction against shipment of low quality potatoes may mean that growers holding the majority of these potatoes will suffer undue hardships. Such cases are usually dealt with by heavy emphasis on suspensions or exemptions

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[5] W. E. Black, Appraisal of Marketing Order Programs for Florida Vegetables (Paper presented at conference on Marketing Policy, Agricultural Policy Institute, Raleigh, N. C., February 22, 1961).

[6] R. W. Gray, et. al. op. cit. p. 152.

which tends to keep down what might otherwise be fatal opposition to the orders. Suspensions and exemptions, if used too liberally, tend to defeat the purpose of regulating quality and a large share of the low quality potatoes may still find their way to market. Thus, program effectiveness may be compromised with program acceptability.

Provisions for quality regulation were included in the proposed agreement and order which was rejected by Florida white potato growers in early 1960.

Quantity Regulation

Provisions for regulating the quantity of a product which may be shipped to market during a specified period may be included in a marketing order. This type of regulation usually involves allocating the total quantity to be marketed among all handlers. For producers of commodities that are not highly perishable, this type of regulation may be useful in spreading out the marketing period to avoid market gluts and resulting low prices.

For potatoes in the Hastings area, which are highly perishable, it appears that this type of regulation would cause serious loss from spoilage at times. These losses might be inequitably distributed among growers. Perhaps this accounts for its absence in the proposed marketing agreement and order which the Florida producers rejected.

Diversion of Surpluses

Marketing orders may provide for the determination of the existence and extent of surpluses. These surpluses may be disposed of by diverting them into secondary market outlets. Each handler is required to participate on a percentage basis.

This sort of regulation was also omitted from the proposed agreement and order for Florida potatoes. An economically feasible disposal program for Florida white potatoes might be extremely difficult to work out in view of the perishability of the product and limited length of the harvesting season.

Pack Regulation

Marketing orders may provide for fixing the size, capacity, weight, dimensions, or pack of the container. Black states that these are the most popular of all regulation.[7] They allow growers to bring about standardization of the product reaching market. A greater degree of buyer confidence in the product can be developed by use of this type of regulation.

Pack regulation, combined with compulsory inspection imposed by the marketing order, means that buyers can be relatively sure of the quality of product they purchase. This type of regulation would be expected to benefit handlers since it would remove some of the confusion arising from the wide variety of packs and sale of uninspected potatoes. Removal of any of the factors conducive to unnecessary price cutting among handlers would seem to be highly desirable. Pack regulation was included in the proposed agreement and order for Florida white potatoes.

In addition to the above types of direct regulation,Federal orders also permit commodity groups to establish research and development projects designed to assist, improve or promote the marketing,distribution and consumption of the product. Funds collected under provisions of

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[7] W. E. Black, Appraisal of Marketing Order Programs for Florida Vegetables (op. cit., p. 3).

such an order may be used to cover the expenses of such projects. Thus, funds for research on marketing problems of the industry might be obtained from industry participants. The proposed agreement and order covering Florida white potatoes included authority to finance market research and development projects with funds collected under the order.

The usefulness of marketing agreements and orders in economic terms is difficult to evaluate. Black states there is no doubt that they have contributed in a modest and limited way to industry stability and farm income.[8] He further indicates that this conclusion was based primarily on the number of orders that have withstood the test of time rather than empirical research.

What, one might ask, would be the expected contribution of a Federal Marketing Order toward improving the marketing situation in the Hastings area. The most outstanding contributions would likely be indirect in nature. Through quality and pack regulation, buyer confidence in Hastings potatoes might be raised substantially. A marketing order could result in availability of funds and the necessary planning and coordination required to develop more adequate and reliable market information for the area. A marketing order would lead to a more standardized product for market shipment which would be advantageous to both buyers and sellers.

Additional intangible benefits might accure to producers through participating in group action. Increased understanding of the nature and extent of pertinent problems would probably result from taking part in group discussions and decisions. Through such participation, useful

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[8] W. E. Black, Clearing Hurdles to Expand Bargaining Power with Marketing Agreements and Orders (op. cit.,p. 1).

ideas might be generated and the industry might find ways to discipline itself and learn to work together in the area of problem solving.

Requirements on the Part of Growers and Handlers for Successful Operation

For a marketing order to be issued, it is first necessary for either two-thirds of the producers to vote in favor of the proposed order or have two-thirds of the total production of the commodity accounted for by those producers who vote in favor of the order.

It is felt that the outstanding requirement on the part of both growers and handlers for successful operation of an order would be the willingness to recognize, and act in accordance with, the long-run interests of the industry. Observations made in the area during the course of this study indicated that concern was strongly oriented in terms of short-run considerations.

Benefits from a marketing order would not be likely to accrue rapidly. Furthermore, it would prove difficult to translate these benefits into tangible economic gains readily understood by producers. Unless the long-run point of view were taken by both buyers and handlers there could be little hope for successful operation of an order.

Another requirement on the part of buyers and handlers would involve the surrender of a certain amount of their traditional freedom of operation. Some buyers and handlers would be forced to comply with regulations against their will and possibly to their individual disadvantage. Promotion of the interest of the group as a whole does not necessarily indicate that the interest of every individual in the group will be served. A large majority of producers and handlers would need to conclude that their interests could best be served through the medium

of a marketing order before such an order could operate with much success.

Producers and handlers would need to have confidence in their ability to select administrative committee members and management capable of implementing the order in an efficient and equitable manner.

Characteristics of the Hastings Area Which Might Affect Success or Failure

One of the important characteristics of the area is the high degree of independence among producers. This applies especially to the large independent producers who do their own packing and selling. For many years, a large number of small producers have belonged to two strong cooperative associations in the area. Membership in the cooperatives has tended to put the small grower on a more equal basis with the large independent grower in producing and marketing potatoes. These growers, cooperative members and independents alike, have generally been in potato production for a number of years. They have witnessed good years and bad years. As a whole, potato production has been a profitable business for many of these growers. This is believed to be largely responsible for their hesitancy to engage in any additional group action or regulation except as a last resort.

In 1959, following two extremely adverse seasons, almost the required support for issuing a marketing order was mustered. Many growers were willing to give up some of their traditional independence in favor of trying a group approach to their problem. One year later, in the fall of 1960, growers indicated that they had little interest

in any type of group activity.[9] This lack of interest was probably due to exceptionally high prices for potatoes in 1960.

Under the conditions existing in 1958, about three-fourths of the growers felt that a marketing order would help solve some of the problems in the area. About 90 percent of the growers felt that the grade of potatoes shipped from the area should be regulated. In the future, growers may decide that a marketing order would be desirable since regulation under such an order could be imposed in years of heavy yield and low prices and left inactive in other years. There would be administrative and operational problems involved in operating a marketing order on an intermittent basis. The administrative committee would have to use resources to keep abreast of changes in the industry even in years when the order was not operative and income from handling charges was temporarily halted. Continuity of research and development projects designed to improve marketing might be disrupted in years when supporting funds were not forthcoming because the order was not in operation. Salaried management and technical personnel might not be available on a temporary basis. Certain overhead expenses would exist during a given season whether the order was in operation or not.

One condition which existed in the Hastings area and was not conducive to any time of group action was the distrust among producers and

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[9] In the fall of 1960, a questionnaire on various proposals for group action and certain legislative proposals was mailed by the agricultural county agents to all potato growers in the Hastings area (See Appendix E for a copy of the questionnaire). Only 15 percent of the growers returned the questionnaires. Generally, a bare majority of those returing the questionnaires was in favor of any of the proposals mentioned.

handlers. The cut-throat competition of recent years in disposing of the potato crop has in many cases resulted in personal friendships of long standing being strained to the breaking point.

Although the Hastings area is small, geographically, production conditions are not likely to be uniform over the area during a given season. The northeastern portion of the area adjoins the St. Johns River and plantings can be made earlier than in other parts of the area. Potatoes in this section are ready for market at the beginning of the Hastings season when prices are likely to be relatively high. Quality of potatoes may vary considerably between different sections of the Hastings area in a given season. Such conditions would tend to make a marketing agreement and order difficult to administer in the area.

Another characteristic of the area which would likely be a handicap to the successful operation of a marketing order is the shortness of the marketing season. Many growers felt administration of an order would not be flexible enough to do much good during a short marketing season. Growers thought that it would take too long to get regulations changed under an order. The need for a change in regulation could arise suddenly, yet it probably would require a week to complete the change in regulation and make it effective.

Determination of the type and extent of regulation needed would pose a difficult problem for the administrative committee. The supply situation for new potatoes is subject to the unsettling influences created by competing areas in which harvesting normally begins during the period the Hastings crop is moving to market. These overlapping market seasons together with a host of factors which can cause changes

in supply from widely separated competing areas result in a rapidly changing and highly uncertain supply situation with which the administrative committee would have to deal.

A reasonable conclusion seems to be that a marketing order might be utilized successfully in the area but the probability of such a development seems rather remote under prevailing conditions.

An Area-Wide Cooperative Association with One or More Central Sales Agencies

One of the factors contributing to the unorganized marketing situation in the Hastings area was the large number of handlers. Many of these handlers were individual growers, two were producer cooperatives, and many others were private or corporate handling firms. The problem of too many handlers would not be solved even if a marketing order as discussed in the previous section, was issued. Handlers would still compete strongly with each other in negotiating with buyers and thus create depressing effects on prices. One approach to the problem of handler competition within the area would be to organize an area-wide cooperative association which would handle, or contract with one or more sales agencies to handle all potatoes produced in the area.

The type of proposal under consideration here is a variation of the more general central sales agency idea. The difference is not one in principle but simply in operational organization. Instead of all sales being made by the central sales agency, itself, the area-wide cooperative could contract with one or more sales agencies to handle the potatoes of its members. The individual grower might be under contract with the area-wide cooperative to handle his own potatoes.

An area-wide cooperative with one or more central sales agencies was considered by Hastings area growers in 1960 and will probably be given more attention in 1961. Producers of other commodities have made use of such organizations.[10]

The area-wide cooperative considered in the Hastings area was commonly known as the Hastings Area Produce Exchange and will hereafter be referred to as the Exchange. It would be possible for all or a large share of the growers in the area to join together in such an Exchange. The Exchange could contract with one, or a small number of sales agencies, to do all of the selling or the Exchange could provide such sales service itself. This would not require additional Federal or State legislation.

Possible Accomplishments of the Hastings Area Produce Exchange

Growers, through the Exchange, could accomplish all of the types of action possible under a Federal order. To the extent deemed necessary, they could regulate quality that could be shipped as well as pack specifications. Inspection could be imposed as a condition of sale leading to a more standardized product and practices which would tend to improve buyer confidence in Hastings potatoes. Producers would tend to reap whatever intangible benefits there might be from participating in group action much the same as under a Federal order. Funds could be collected for market research and development projects. In addition to

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[10]Florida Citrus Exchange is an example of this type of organization. Florida celery producers have a similar organization called the Florida Vegetable Exchange. Strawberry growers in Louisiana and Florida have similar organizations.

these possibilities, certain other goals might be obtained which would not be possible under the provisions of a Federal marketing order.

The Exchange seems to be the best hope for reducing the competition among handlers. In recent years, the number of handlers in the area has increased. At the same time buyers have become fewer, larger, and better organized. Thus, buyers are in a much better bargaining position than handlers. This highly important element in the marketing picture could be changed through the use and support of a properly functioning Exchange. It is reasonable to expect that buyers would find it necessary to compete more actively among themselves for the source of supply. Growers then could leave off competing with each other to find a buyer for their small individual volume.

Growers and handlers, through the Exchange, could follow whatever advertising and merchandising program they desired to utilize. Funds for this purpose could not be collected under the Federal marketing order. There would be no legal limitations as to the amount of funds withheld through the Exchange and used for these purposes.

The Exchange, if successful in contracting with agencies to market potatoes of Exchange members, might expand its operations to include bargaining for its members in the future.

Requirements on the Part of Growers for Successful Operation

In order for the Exchange to contract effectively with one or more central sales agencies for the Hastings area, it would be necessary for a large proportion of the growers to belong to and support the Exchange. They would have to be willing to enter into a marketing contract. Such an agreement would permit the Exchange to sell their potatoes or contract sales through designated sales agencies.

Growers would have to assume the ultimate responsibility for the success or failure of the organization. Unless growers exercised their individual responsibility to participate in the Exchange to the fullest of their ability it could never reach its potential as a service agency for the members.

Growers would need to recognize, as in any other type of group action, the responsibility of the minority to submit to the desires of the majority.

Characteristics of the Hastings Area Which Might Affect Success or Failure

One factor which would seem to have a favorable influence on the success of the Exchange was the widely recognized need to reduce the number of handlers in the area. This was accompanied by frequent remarks of growers relative to the price cutting practices among handlers in trying to move their potatoes.

About 70 percent of the growers interviewed said they would be willing to support a central sales agency. However, many of these growers felt there was a poor chance of establishing such an agency in the area due to the unwillingness of growers to cooperate with each other. These opinions were expressed relative to the idea of a single sales agency handling all sales for the entire area. Modification of the "single sales agency" aspect to provide for the Exchange to contract with several sales agencies or handlers would seem to be a step in the right direction. Thus, growers would have some choice of handlers.

The possibility of large volume producers contracting with the Exchange to handle their own sales would increase the probability of obtaining their cooperation in the Exchange. These large volume

independent growers have been producing and selling their own potatoes for many years. They have developed good market contacts and reliable outlets for their potatoes. Some of them would be extremely reluctant to transfer the selling function to central authority.

In many cases, arrangements for production financing are made with the understanding that the lender will handle the grower's potatoes. Thus, establishment of the Exchange might create a problem in cases where handlers were financing growers, but were not under contract with the Exchange to handle potatoes.

Grower Bargaining Association

There has been a great amount of interest in grower bargaining cooperatives in recent years. Producers of milk, sugar beets, eggs, fruits and vegetables have used bargaining associations.

Grower bargaining associations are producer cooperatives set up to represent farmers in negotiations on prices, contract specifications, or other terms of sale. In February 1961, there were over 300 of these associations in the United States. The number of bargaining associations by commodity groups was estimated as 200 dairy, 50 sugar beet, 30 egg, and nearly 50 fruit and vegetable associations.[11]

In recent years, the most dramatic growth in bargaining cooperatives has been in the processed fruit and vegetable industries.[12] Only two associations date prior to World War II. At the end of 1957, 35

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[11] W. M. McMillan, Producer Bargaining Associations (Paper presented at the Conference on Marketing, Agricultural Policy Institute, North Carolina State College, February 23, 1961, p. 2).

[12] Ibid., p. 2.

fruit and vegetable bargaining cooperatives were operating in the United States and another 15 were organized from 1958 through 1960. These cooperatives generally do not handle the physical processing and movement of the commodity. They merely bargain in behalf of producers in an effort to get the most favorable prices and other terms of sale.

The Farmer Cooperative Service of the United States Department of Agriculture has knowledge of only one potato bargaining association.[13] This organization is only two years old and is located in Idaho. McMillan states that Irish potato growers in Maine and sweet potato growers in Virginia, Maryland and New Jersey are considering bargaining associations.[14]

The growers in Idaho contract with processors in terms of a certain number of acres rather than a certain number of bags or hundredweights. The price is based on the percentage of No. 1 potatoes and the time of delivery. At least one processor was unhappy with contracting on the basis of a number of acres rather than a specified volume of potatoes. He indicated that in a particular year, when the contract price was higher than the market price, yields on contract acreage amounted to 150 percent of the average yield for the state. In another year, when market price was higher than the contract price, the yield on contract acreage was only 50 percent of the state average.[15]

Bargaining associations may actually serve as the selling agent for their members. In such cases, there is usually a three-way contract

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[13] W. M. McMillan, Acting Chief, Fruit and Vegetable Branch, Farmer Cooperative Service (Letter, March 13, 1961).

[14] Ibid., p. 2.

[15] Bruce Gray, President, Florida Planters, Inc., Hastings, Florida (Letter, March 29, 1961).

specifying the requirements on the part of the grower, the association, and the processor.[16] Other bargaining associations limit their activities to negotiating with processors and members of the association then sell directly to processors subject to the terms of agreement reached between the association and processors.

Possible Accomplishments of a Grower Bargaining Association

Over one-half of the Hastings potato crop goes to processors, primarily potato chip manufacturers. Processors acquired about 14 percent of their total purchases of Hastings potatoes on a contract basis during the 1957-58 season. Contract terms in 1958 were fairly uniform between growers and various processing firms with the exception of price specifications. Generally, growers who contracted had a little less than one-third of their total output on contract. Some growers felt that a bargaining association could serve a useful purpose in dealing with processors.

Assuming that most growers in the area would support a bargaining association, several things might be accomplished. Through negotiating as a group the bargaining power of producers would be strengthened. As a result of stronger bargaining power, growers might be able to move the same total volume to processors at slightly higher prices than they could obtain under present conditions.

Increasing, directly, the price per unit of product sold to processors would perhaps be less important than some other influences

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[16] Sidney Hoos, The Role of Cooperative Bargaining Associations in the Integration of Agricultural Marketing (Address before the California State Chamber of Commerce, San Francisco, April 6, 1960).

which might be created through group bargaining. For instance, through group bargaining, growers might be able to obtain adoption of more uniform contract terms. Negotiation on such items as grades and grading, time of harvest and delivery and method of payment could be initiated. By bargaining as a group, growers could get major changes in the type of contract being used. They could thus join with processors in working out a contract which would be to the mutual advantage of both parties and tend to introduce more stability into the marketing situation in the area.

Through a bargaining association, certain costs of procurement could probably be reduced. Processors should find it more convenient and economical to do their bargaining with a single agency rather than with a number of individual growers. Field work involved in contract sign up with growers could be eliminated.

Grower understanding of the factors influencing the marketing of their product would be expected to improve as they participated in the group discussions and decision making processes of marketing.

Relationships between growers and processors would be expected to improve as they learned more of each others' problems.

Requirements on the Part of Growers for Successful Operation

The main source of strength in a bargaining association is the combined volume of the member-growers.[17] A volume sufficiently large that processors cannot ignore it must be signed up by members of the

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[17] W. M. McMillan, Fruit and Vegetable Bargaining Cooperatives (Farmer Cooperative Service, U. S. D. A., FCS Circular 25, 1958, p. ix).

bargaining group. The greater the proportion of the total volume controlled, the greater would be the bargaining power of the association.

Growers would need to do a good job of collecting, analyzing, and preparing data and information to be used in negotiating with processors. This would be necessary to establish and maintain the respect and cooperation of processors in their dealings with the association. Although the marketing season is relatively short, a small highly efficient staff would need to be employed by the association on a year-round basis to keep a finger on the economic pulse of the industry and be adequately prepared to negotiate with processors at the appropriate time.

Growers would need to recognize the importance of being concerned with the long-range welfare of the industry. There might exist in the short-run, the temptation to take advantage of increased bargaining power in extracting prices from processors which were higher than justified by supply and demand conditions. Such action would be a stimulus for additional production which might not be in the longer-run interests of growers. Growers, through their bargaining association, would need to recognize and conscientiously execute their responsibilities to the industry as a whole.

Finally, growers would have to be willing to live up to their commitments at any particular time. Only as a result of such support would the association be able to speak clearly and authoritatively for its members.

Characteristics of the Hastings Area Which Might Affect Success or Failure

One of the most important factors which might contribute to the successful operation of a bargaining association is the desire of

growers to keep control of the industry in their own hands. In fact, it is doubtful if the large independent growers would be willing to go along with any proposal which required surrender of an appreciable amount of their independence. It is conceivable that both large and small growers would benefit from the improved bargaining position they might acquire through group bargaining. This means of attacking the problem would likely forestall State or Federal regulation for the area.

The Hastings area produces a good chipping potato which insures the interest on the part of processors to continue obtaining supplies from the area. This does not mean, however, that processors would not oppose the formation of a grower bargaining association.

There are several reasons why the successful operation of a bargaining association might be difficult or impossible. Ranking high among these is the fact that the fresh market and processed market are about equally important in terms of the volume of potatoes taken from the area. In addition, many growers and handlers channel a part of their potatoes through each market outlet rather than selling their entire volume to either the fresh market or the processed market. The problem is further complicated by the fact that the bulk of the processors' demand is for the same grade and size potatoes which are in strongest demand by fresh market buyers. The fresh market is already getting adequate supplies of potatoes. If processors should refuse to negotiate with a grower bargaining association, there seems little reason to believe that supplies would not be available to them in the Hastings area because the fresh market could not absorb, at prices acceptable to growers, the entire production of the area.

In view of the above situation, it might be difficult for a bargaining association to obtain recognition of processors as an economic force to which they would have to make any concessions.

There exists the possibility of bargaining with fresh market buyers as well as processor buyers. This, however, would involve many small buyers as well as a few large chain buyers and successful bargaining might be difficult.

Assuming that a grower bargaining association could gain recognition of processors and proceeded to negotiate, there would still be the problem of processors producing their own potatoes in the area if growers demanded unreasonable contract prices and terms. However, it is believed that contract conditions could be stabilized to the advantage of growers without encouraging processors to expand production activities in the area.

CHAPTER VIII

SUMMARY AND CONCLUSIONS

One of the main purposes of this study was to describe important changes in the Hastings potato industry during the 5-year period 1953-54 through 1957-58. These changes related to the proportion of the crop going to processors, market organization and grower and shipper practices in the area. The study also attempted to ascertain the opinions of growers and shippers relative to market organization and practices and to evaluate the possibilities and probable effects of some alternative group actions on the part of growers.

The Hastings area is composed of three adjoining counties in Northeast Florida (St. Johns, Flagler and Putnam). This area produces about 90 percent of Florida's spring crop potatoes.

In this study, the grower population was stratified into three size of farm groups (less than 100 acres, 100 to 249 acres, and 250 acres or more) on the basis of 1957-58 potato acreage. Range in acreage for individual growers was 5 to 632 acres. There were 183 growers in the small farm group, 61 in the medium farm group and 25 in the large farm group. A probability sample of growers yielded a total of 93 records for analysis. A non-probability sample of handlers was also interviewed.

Potato production was highly specialized. The average age of growers was 48 years and they had an average of 18 years experience in producing potatoes. Cabbage was the only other important cash

crop. The number of growers in the area increased 22 percent from 1954 to 1958. The increase was greatest in the small size group.

Acres of potatoes harvested increased 36 percent from 1953-54 to 1957-58. Total sales increased about 19 percent but sales-per-acre-harvested declined due to unfavorable production conditions in the 1956-57 and 1957-58 seasons.

The trend toward mechanical harvesting was quite pronounced during the period studied. About one-third of the growers owned mechanical harvesters in 1958. The estimated number of harvesters increased from about 10 or 15 in 1954 to 130 in 1958. About 44 percent of the total potato acreage was harvested mechanically in 1958. Growers have converted to mechanical harvesting in an attempt to lower the per-unit cost of handling potatoes and avoid to some extent the labor problems associated with non-mechanical harvesting.

The number of grower-owned-and-operated packinghouses almost doubled between 1954 and 1958. Growers on medium and large farms owned most of the packinghouses. Thirty-five of the 51 growers packinghouses were equipped to handle potatoes hauled in bulk. Forty-two percent of the volume packed in 1958 was handled in bulk form.

The range in the percentage of growers using production credit during the 5-year period was 82 to 85 for operators of small farms, 70 to 76 for operators of medium farms, and 36 to 68 for operators of large farms. The outstanding credit development during the period was the increase in the proportion of large farm operators obtaining loans; 36 percent in 1954-55 compared to 68 percent in 1957-58. The average annual loan per acre of potatoes produced by borrowers varied from $233 to $253 during the period. Production Credit Associations

accounted for about one-third of the credit extended growers in each size group during the 5-year period. Cooperatives were the most important source of credit used by operators of small and medium farms. Bank credit was important only to operators of large farms.

The estimated number of growers holding production contracts with processors increased from 8 in 1954-55 to 65 in 1957-58. Total volume on contract as a percent of the production increased from 1.6 in 1954-55 to 10.4 in 1957-58. On the average, contract volume made up about one-third of the total production of contract growers. Contracts usually called for U. S. No. 1 potatoes and carried minimum and maximum price specifications. Sales were to be at the market price if the market price was within the minimum-maximum range at the time of sale. Over one-half of the contracts specified Federal-State inspection of the potatoes.

Over one-half of the sample growers were of the opinion contracting would increase in the Hastings area. About two-thirds felt contracting was partly responsible for the relatively low prices received in the 1957-58 season. Growers on small farms tended to hold the opinion that contracting caused low prices, whereas those on large farms felt contracting did not cause lower prices. About 22 percent of the sample growers stated they intended to contract in the following season.

Growers contracting in 1958 were well pleased with the provisions of the contracts. However, the type of contract being used carried no provisions for adjusting the amount of potatoes to be delivered in years when production was abnormal. Thus, the grower bore a large proportion of the risk in case of low yields and high prices. One

way to more evenly distribute the risk related to variation of yields would be the use of a fixed percentage contract. The processor would agree to take, say 50 percent of the output from a given number of acres based on the average yield per acre as indicated by the Crop Reporting Service for the season covered by the contract. Under this arrangement the proportion of the growers' crop delivered on contract would tend to remain constant but the total amount delivered would vary with the general level of production in the area.

Handlers were divided into three categories; growers, cooperatives, and other agents. The number of growers served by each type of handler increased during the 5-year period due to an increase in the number of producers and also an increase in the number of growers who utilized more than one type of handler. The relative increase in the number of growers served by cooperatives was less than for either of the other two types of handlers.

The proportion of sales handled by cooperatives declined during the 5-year period while that for grower-handlers remained fairly constant and other agents accounted for an increasing proportion. In 1958, growers accounted for 29 percent of total sales compared to 32.7 percent for cooperatives and 38.3 for other agents.

Size groups differed greatly in their contribution to total sales by type of handler. Operators of large farms accounted for about two-thirds of total grower-handler sales but operators of small farms contributed only 8 percent. Over one-half of total cooperative sales originated in the small farm group, one-third in the medium and 12 percent in the large farm group. Other agents drew about one-third of their total volume from each size of farm group.

Buyers were classified into five types; truckers, retailers, wholesalers, processors and others. Distribution of sales by type of buyer was ascertained for two years, 1957 and 1958. Processors were by far the most important single type of buyer, accounting for 41 percent of total sales in 1958. Other buyers received 24 percent of 1958 sales compared to 21 percent for wholesalers, 12 percent for retailers and 2 percent for truckers. The proportion of all sales accounted for by retailers was much lower in 1958 than in 1957 whereas the proportion going to processor buyers increased. Trucker buyers obtained all of their volume from grower-handlers. Retailers acquired about 25 percent of their supply from cooperatives. Cooperatives were the most important source of supply for wholesalers and other buyers. Grower-handlers contributed the largest proportion of total sales to processors, followed by cooperatives.

About 42 percent of total sales entered the fresh market in 1957 compared to only 31 percent in 1958. Of the three types of handlers, cooperatives had the largest share of their sales going to the fresh market. Grower-handlers had a smaller proportion of their sales going to the fresh market than did cooperatives or other handlers. It was estimated that 54 percent of the total volume sold was utilized by processors in 1957 compared with 62 percent in 1958.

The seven agencies included in the handler sample had sales of 2.1 million hundredweights in 1957 compared to 1.6 million in 1958. These volumes were considered in terms of their distribution between the fresh and processed markets on the basis of grades and sizes. The processed market received 43 percent of the total volume of U. S. No. 1, size A potatoes in 1957, and about 52, 75, 78 and 100 percent

of the U. S. No. 1, size B, Percentage No. 1, Utilities and Creamers, respectively. In 1958, processors utilized 55, 56, 52, 79 and 100 percent of the total volume of U. S. No. 1, size A; U. S. No. 1, size B; Percentage No. 1; Utilities and Creamers, respectively. The lower proportion of Percentage No. 1 potatoes taken by processors in 1958 was probably due to the increased fresh market demand for these potatoes resulting from generally lower quality of the crop in 1958.

Growers were asked to give their opinions as to what constituted the main problems facing the industry in the Hastings area. In order of the frequency with which they were mentioned, the five most important problems seen by growers were (a) too many potatoes, (b) too many handlers, (c) poor quality, (d) poor market organization, and (e) contracting.

About 81 percent of the growers felt that production should be decreased. They were about equally divided on the question of whether the quality of field-run potatoes had improved over the last 10 years. They were also about equally divided over the question of whether the quality of pack had improved during the same period.

About 81 percent of the sample growers felt that the increase in the number of growers selling their own potatoes had resulted in depressing market prices due to the practice of price cutting. Of the 93 sample growers, 80 felt that a smaller number of handlers would be desirable.

Over one-half of the growers thought there was a poor chance of a central sales agency being operated successfully in the area; however, 69 percent indicated they would support such an agency if one were set up.

Approximately one-third of the growers thought that a Federal-State marketing agreement would be useful in improving the quality and standardizing the potatoes going to market. They felt that the greatest disadvantage of a marketing agreement would be the risk involved in getting administrative committee members who would do a good job in recommending regulations. About one-half of the growers thought there would be no disadvantages associated with a marketing agreement.

About 75 percent of the growers felt that the sale of immature potatoes had adversely affected the fresh market. Operators of small farms tended to favor maturity regulation while those of medium and large farms were generally opposed to it.

Two-thirds of the sample growers were of the opinion that the proportion of the crop going to the fresh market should be increased. Improvements in quality and the use of advertising were most often mentioned as means through which fresh market sales might be increased.

Slightly more than one-half of the growers held the opinion that available market news was adequate to meet their needs. The main criticism centered around the belief that report prices were somewhat higher than those at which the majority of the volume was sold.

The combined influence of the major changes reported in this study, such as increased number of producers, increased output, increased demand for processing, changing relationships between buyers and handlers, shift to mechanical harvesting, increased grower activity in packing, expanding contract production and the divergency of grower opinions had resulted in near chaotic marketing conditions in the industry.

It is possible that growers could use some type of group action

to introduce more stability into the marketing function for their product and improve their net returns. A Federal marketing agreement and order, an area-wide cooperative with one or more central sales agencies, or a grower bargaining association could be used to solve certain problems if they were adequately supported by growers. However, there is a strong tendency toward independence on the part of most growers and it appears that the trust and understanding necessary to insure successful group action is lacking at the present time. Any group action which tended to increase net returns to the industry would be an open invitation to increase supplies. In the absence of any restraint to entry, the pressure of heavier supplies would prevent any appreciable improvement in relative prices.

The effectiveness of group action would be limited also by the relationships between the Hastings area and competing areas. The marketing season for Hastings potatoes covers only a six to eight week period. During this marketing period, potatoes originating in the Hastings area constitute about one-half of the total domestic supply of new potatoes. However, stored potatoes from the late producing states also compete with new potatoes in the market. It is assumed that any group action on the part of the Hastings area which tended to improve prices would result in larger carry-over of old potatoes and increased output of new potatoes from competing areas.

APPENDICES

APPENDIX A

(Grower Questionnaire)

A STUDY OF MARKET ORGANIZATION AND PRACTICES FOR POTATOES IN THE HASTINGS AREA OF FLORIDA

(Department of Agricultural Economics, Florida Agricultural Experiment Station)

C-O-N-F-I-D-E-N-T-I-A-L

Enumerator_____ County_____ Date_____

Sample Number_____ Starting time_____A.M. _____P.M.

GENERAL INFORMATION

1. Age of grower_____years.

2. What year did you first produce potatoes in the Hastings area?____

3. Areas in cash crops other than potatoes in 1957-58.

Crop	Total acres	Acres on rented land	Acres followed by potatoes
Cabbage			
Other (specify)			

4. Potato acreage and sales, 1953-54 to 1957-58.

Season	Acres planted		Acres harvested		Total sales	
	White	Red	White	Red	White	Red
					(cwt)	(cwt)
1957-58						
1956-57						
1955-56						
1954-55						
1953-54						

PRODUCTION AND MARKETING CONTRACTS OR AGREEMENTS

5. Did you grow any potatoes under contract or agreement last season (1957-58)?

Yes_____ No_____ (GO TO QUESTION 16)

6. Information on 1957-58 contract or agreement:

a. Name and location of agency_____

b. Was the contract written? Yes_____ No_____

c. Volume or acreage specifications_____

d. Delivered_____cwt.

e. Volume delivered as a percent of total volume sold. _____%

7. Who made the initial contact between you and the contracting agency?

a. Grower_____ b. Agency representative_____ c. Other (specify)

8. How far in advance of harvest date was the contract signed or the agreement made _____Months _____Days?

9. Did you have plenty of time and opportunity to study the contract or agreement before signing or consenting to it?

Yes_____ No_____ (Explain)_____

_____

10. What did the contract or agreement specify regarding:

    a. Credit extension:_____

    b. Production items:

       Variety_____

       Cultural methods_____

       Fertilizer application_____

       Insecticides_____

       Other (specify)_____

    c. Marketing:

       Time of delivery_____

       Method of harvest_____

       Quality_____

       Price_____.

       Potatoes to be inspected by Federal-State inspectors.

       Yes_____ No_____

       Method of transportation_____

       Type of pack: ___% in new bags. ___% in old bags. ___% non-specified.

       Did contracting agency furnish bags? Yes_____ No_____

    d. Features understood but not specified in the contract_____

       _____

11. Do you feel that the over-all effect of the contract or agreement was:

    a. To your advantage _____

    b. To your disadvantage _____

12. What features about the contract or agreement did you like?

    a. Feature:_____

       Why?_____

    b. Feature:_____

       Why?_____

    c. Feature:_____

       Why?_____

13. What features about the contract or agreement did you dislike?

    a. Feature:_____

       Why?_____

    b. Feature:_____

       Why?_____

    c. Feature:_____

       Why?_____

14. What are the most important things that might be done to make the contract or agreement more desirable from your point of view?

    _____

15. Do you think the fact that you contracted encouraged the contractor to buy potatoes from you other than those covered in the contract?

    Yes_____ No_____. If yes, explain_____

    _____

16. Do you think that contract growing will increase or decrease in this area?

    a. Increase_____ Why?_____

    b. Decrease_____ Why?_____

17. Do you think that contract growing played any part in causing the low prices received by growers in the 1957-58 season?

Yes_____ No_____. If yes, explain_____

18. Did you consider the provisions of any contract or agreement last season but decided not to sign it with the contracting agency?

Yes_____ No_____. If yes, why did you decide not to sign the contract?_____

19. If experience with contract or agreement prior to last season caused you to avoid contracts in 1957-58, what were the features about these prior contracts which you did not like?

_____

_____

20. General contract information for seasons prior to 1957-58.

Season	Name & location of agency contracted with	Written contract Yes	Written contract No	Volume or acreage specifications	Volume Cwt. delivered	Volume As % of total crop sold

21. What are your plans regarding contracting for the coming season?

_____

_____

_____

SELLING AGENCIES

22. Distribution of sales by type of seller. (Start with 1957-58 season and work back to 1953-54).

	Person or agency through which first sale was made							
	Grower	Cooperative sales agency		Other sales agency				All agencies
Season		Name	%*	Name	Type	Location	%*	%
1957-58								
1956-57								
1955-56								
1954-55								
1953-54								

* These should total to 100 percent for each season under the "all agencies" column.

23. Reasons for changes indicated in question 22_____

_____

24. Grower sales.

a. Why do you attempt to sell your own potatoes?_____

_____

b. How was the price determined on potatoes which you sold?____

_____

c. Have there been cases when you thought you sold potatoes at a particular price and found out later that you were paid less than you thought? Yes____ No____. If yes, explain

_____

_____

25. Additional information on grower sales:

Season and item	Type of buyer				
	Trucker	Chain store	Wholesale receiver	Processor	Other (specify)
1957-58					
Percent of total grower sales					
Est. part going to processors					
1956-57					
Percent of total grower sales					
Est. part going to processors					
1953-54					
Percent of total grower sales					
Est. part going to processors					

26. Reasons for changes indicated in question 25. _____

_____

PRODUCTION CREDIT

27. Amount, sources and conditions of production credit.

Season	Total credit used (dollars)	Source (type*)	Percent of total	Production or marketing conditions
1957-58				
1956-57				
1955-56				
1954-55				
1953-54				

* Cooperative, Bank, P. C. A., Individual, Chipper, or Other (specify).

28. Reasons for changes indicated in question 27.

_____

_____

HARVESTING AND PACKING

29. Do you own any mechanical harvesters?

Yes_____

No_____ (GO TO QUESTION 34)

30. Information on mechanical harvesters owned and operated in 1957-58.

Make	Type & size	Date bought	Number of acres harvested		Custom rate
			Own crop (acres)	Custom basis for others (acres)	(per cwt)

31. Why did you decide to use mechanical harvesters?_____

_____

34. Did you hire any potatoes harvested by mechanical harvester on a custom basis in 1957-58? Yes_____ No_____ (GO TO QUESTION 35)

a. Name of harvester owner_____

b. Volume harvested_____ acres_____ c. Rate_____

35. Why have you not purchased a mechanical harvester?_____

_____

_____

36. History of potato packing, (Start with 1957-58 season and work back to 1953-54).

	Packinghouse used					
	Own house	Cooperative house		Other		All types
Season	%*	Name	%*	Name	%*	%*
1957-58						
1956-57						
1955-56						
1954-55						
1953-54						

* These should total to 100 percent of all potatoes packed under the "All types" column.

37. Reasons for changes indicated in question 36_____

_____

38. Did you operate or hold interest in the operation of any packing-houses during the 1957-58 season?

Yes_____

No_____ (GO TO QUESTION 42)

39. Information on 1957-58 packing operation:

	Your interest	Name of joint	Date ac-	Equipment				Volume received	Total volume
				Dryers		Bulk handling			
Item	in house	owner	quired	Yes	No	Yes	No	in bulk	packed
	%							(cwt)	(cwt)
Own house	NA	NA							
	NA	NA					-		
Jointly owned house									

40. How many hundred pound bags of U.S. No. 1 potatoes did you pack per hour under normal conditions?

House No. 1____ House No. 2____ House No. 3____ House No. 4____

41. Why did you decide to go into the packing business?_____

_____

42. Have you been a member of the Hastings Potato Growers Association or Florida Planters Cooperative in any of the following seasons?

Season	H. P. G. A.	Fla. Planters
1957-58	_____	_____
1956-57	_____	_____
1955-56	_____	_____
1954-55	_____	_____
1953-54	_____	_____

OPINIONS AND ATTITUDES

1. What do you think is the most critical problem facing the potato industry in this area?_____

_____

2. What is the second most critical problem?_____

_____

3. What are other problems you consider important?_____

_____

4. What do you think has been the effect on the market of an increase in the number of growers selling their own potatoes?_____

_____

_____

5. Would a smaller number of sellers in the Hastings area be:

Highly desirable _____

Desirable _____

Not desirable _____

No opinion _____

6. What do you think is the chance that a central sales agency could be set up and operated successfully in this area?

Excellent chance _____ Reason for answer _____

Good chance _____ _____

Fair chance _____ _____

Poor chance _____ _____

7. To what extent would you support a central sales agency if one were set up?

Strong support _____

Some support _____

No support _____

Don't know _____

8. Do you feel that the available market news is:

Very adequate _____ Reason for answer _____

Fairly adequate _____ _____

Inadequate _____ _____

No opinion _____ _____

9. During the last 10 years, do you think the quality of potatoes produced in the Hastings area has tended to get:

Much better	_____	Reason for answer _____
Some better	_____	_____
No better	_____	_____
Worse	_____	_____

10. During the last 10 years, do you think the quality of potatoes packed in the Hastings area has tended to get?

Much better	_____	Reason for answer _____
Some better	_____	_____
No better	_____	_____
Worse	_____	_____

11. In your opinion, what is the effect on the market of digging potatoes before they are fully mature? _____

_____

12. Do you think it would be desirable to have some standard regulating the maturity of potatoes sold?

Yes _____ No _____. Reason for answer _____

13. How do you feel about the amount of the Hastings potato crop going to the fresh market?

Should be increased considerably	_____
Should be increased some	_____
Should remain about the same	_____
Should be decreased	_____

14. If you think more potatoes should be going to the fresh market, what do you think could be done to increase fresh market sales? _____

_____

15. If there is a tendency in the future for financing agencies to take over more of the decisions normally made by growers, do you think this will be:

    A great advantage to growers _____

    A small advantage to growers _____

    A small disadvantage to growers _____

    A great disadvantage to growers _____

    Reason for answer _____

16. What particular marketing problems do you think a marketing agreement could help solve? _____

17. What do you think would be the disadvantages of a marketing agreement? _____

18. Do you think it would be an advantage to have some way to regulate the grade of potatoes shipped from this area if desirable?

    Yes _____ No _____. Reason for answer _____

19. If yes to question 18, what grades of potatoes do you think should be regulated? _____

20. What effect do you think activities in the potato futures market have had on prices received by growers in this area?

    Resulted in higher prices

		Reason for answer _____
+2	_____	_____
+1	_____	_____
-1	_____	_____
-2	_____	_____

    Resulted in lower prices

21. Have you bought any potato futures? Yes _____ No _____

22. How do you feel about the amount of potatoes being grown in this area?

    Should be increased considerably _____

    Should be increased slightly _____

    Should be decreased slightly _____

    Should be decreased considerably _____

    Reason for answer _____

Time Interview Ended _____A.M. _____P.M.

APPENDIX B

(Seller Questionnaire)

A STUDY OF MARKET ORGANIZATION
AND PRACTICES FOR POTATOES IN
THE HASTINGS AREA OF FLORIDA

C-O-N-F-I-D-E-N-T-I-A-L C-O-N-F-I-D-E-N-T-I-A-L

(Department of Agricultural Economics, Florida
Agricultural Experiment Station)

Code No._____ Enumerator_____ Date_____

GENERAL INFORMATION

1. Do you grow potatoes for your own account in the Hastings area?

   Yes _____

   No _____ (GO TO QUESTION 2)

   a. When did you start growing potatoes? _____
   (Year)

   b. Number of acres grown and total hundredweights sold in 1958.

   Acres _____ Cwt. sold _____

2. What year did you first sell potatoes for Hastings area growers?

   Year _____

3. Is your potato selling operation limited to potatoes grown in the Hastings area?

   Yes _____ (GO TO QUESTION 4)

   No _____ What other areas did you operate in last year (1958)?

   _____

4. Number of growers in the Hastings area for whom you sold some potatoes in 1958. _____

5. Do you furnish growers with any of the following items?

Seed _____ Fertilizer _____ Insecticides _____

Other (Specify) _____

6. Distribution of total potato sales.

	1957			1958		
Grade & size	Total sales (cwt)	Fresh market (cwt)	Processed products (cwt)	Total sales (cwt)	Fresh market (cwt)	Processed products (cwt)
Size A U.S. No. 1						
Percentage						
Utilities						
Size B						
Other						
TOTALS						

SALES FOR FRESH MARKET

1. Distribution of fresh market sales by grade and type of outlet.

Year	Grade & size	Direct sales to retailers	Indirect sales				Total all type outlets
			Wholesale receivers	Truckers	Local buying brokers	Other	
		(cwt.)	(cwt.)	(cwt.)	(cwt.)	(cwt.)	(cwt.)
1957	Size A U. S. No. 1						
	Percentage						
	Utilities						
	Size B						
	Other						
	TOTALS						
1958	Size A U. S. No. 1						
	Percentage						
	Utilities						
	Size B						
	Other						
	TOTALS						

2. Distribution of fresh market sales by type of pack.

Type of pack	Percent of sales	
	1957	1958
100 lb. bag		
50 lb. bag		
Consumer pack		

3. Estimated percentage of volume sold to retail outlets that was utilized in processed products.

1957 _____% 1958 _____%

4. Do you advertise potatoes for the fresh market?

Yes _____ Explain_____

No _____ Why not? _____;

5. What type of action have you taken in recent years to try to gain new retail accounts?

_____

6. What do you think could be done to increase sales to retail outlets?

_____

SALES FOR PROCESSING

1. Distribution of sales for processing by grade and type outlet.

Year	Grade & size	Direct to processor		Indirect sales				Total all type outlet
		On contract	Non-contract	Wholesale receivers	Truckers	Local buying broker	Other	
		(cwt.)	(cwt.)	(cwt.)	(cwt.)	(cwt.)	(cwt.)	(cwt.)
1957	Size A U. S. No. 1							
	Percentage							
	Utilities							
	Size B							
	Other							
	TOTALS							
1958	Size A U. S. No. 1							
	Percentage							
	Utilities							
	Size B							
	Other							
	TOTALS							

2. Did you have a contract or agreement to furnish a specified volume of potatoes to processing firms in 1958?

   Yes _____ No _____ (GO TO QUESTION 5).

3. Information on 1958 contract or agreement:

   a. Name and location of processors _____

   _____

   b. Was the contract written? Yes _____ No _____

   c. What volume did the contract or agreement call for?_____cwt.

   d. Volume delivered on the contract _____cwt.

   e. Variety _____

   f. Grade _____

   g. Time of delivery _____

   h. Method of harvest _____

   i. Price _____

   j. Was Federal-State inspection required? Yes _____ No _____

   k. Terms of sale _____

   l. Method of transportation specified _____

   m. Type of pack specified. New bags_____% Used bags _____%

   n. Credit extension _____

   o. Initial contract between seller and buyer made by:

      Buyer _____ Seller _____

   p. When was the contract signed or the agreement made? Date_____

4. Did you sub-let any of the 1958 contracts or agreements among growers for whom you sold potatoes?

   Yes _____ No _____ (GO TO QUESTION 5).

   a. How many growers received a share of the contract? _____

b. On what basis was the contract allotted among growers? _____

_____

c. Did each grower have the option of taking a share of the contract or not taking a share?

Yes _____ No _____

d. What were the price terms to individual growers on their share of the contract?

_____

e. Who decided when the grower would deliver his share of the contract? _____

5. What do you consider to be the advantages of contract selling?

_____

6. What do you think are the disadvantages of contract selling?

_____

7. What were the terms of sale on most shipments to processors?

_____

8. Estimated percentage of the total volume sold to processors which was diverted to fresh market use. 1957_____% 1958_____%

9. Where are most of your processor outlets located which purchase from you on a non-contract basis?

NOTE: List states in order of their importance as outlets, beginning with the state to which the largest volume went

_____

PART IV

OPINIONS AND ATTITUDES

1. What do you think is the most critical problem facing the potato industry in this area? _____

2. What is the second most critical problem? _____

3. What are other problems you consider important? _____

_____

4. What do you think has been the effect on the market of the increase in the number of growers selling their own potatoes?

_____

5. Would a smaller number of sellers in the Hastings area be:

Highly desirable _____

Desirable _____

Not desirable _____

No opinion _____

6. What do you think is the chance that a central sales agency could be set up and operated successfully in this area?

Excellent chance _____ Reason for answer _____

Good chance _____ _____

Fair chance _____ _____

Poor chance _____ _____

7. Would you support a central sales agency if one were set up?

Yes _____ No _____

8. Do you feel that the available market news is:

Very adequate _____ Reason for answer _____

Fairly adequate _____ _____

Inadequate _____ _____

No opinion _____ _____

9. During the last 10 years, do you think the quality of potatoes produced in the Hastings area has tended to get:

Much better	_____	Reason for answer _____
Some better	_____	_____
No better	_____	_____
Worse	_____	_____

10. During the last 10 years, do you think the quality of potatoes packed in the Hastings area has tended to get:

Much better	_____	Reason for answer _____
Some better	_____	_____
No better	_____	_____
Worse	_____	_____

11. In your opinion, what is the effect on the market of digging potatoes before they are fully mature?

_____

12. Do you think it would be desirable to have some standard regulating the maturity of potatoes sold?

Yes _____ No _____. Reason for answer _____

13. How do you feel about the amount of the Hastings potato crop going to the fresh market?

Should be increased considerably	_____
Should be increased some	_____
Should remain about the same	_____
Should be decreased	_____

14. What particular marketing problems do you think a marketing agreement could help solve? _____

_____

15. What do you think would be the disadvantages of a marketing agreement? _____

_____

16. Do you think it would be an advantage to have some way to regulate the grade of potatoes shipped from this area if desirable?

Yes _____ No _____. Reason for answer _____

17. If yes to question 16, what grades of potatoes do you think should be regulated? _____

18. What effect do you think activities in the potato futures market have had on prices received by growers in this area?

Resulted in higher prices	Reason for answer
+2 _____	_____
+1 _____	_____
-1 _____	_____
-2 _____	_____
Resulted in lower prices	_____

19. Have you bought any potato futures? Yes _____ No _____

20. How do you feel about the amount of potatoes being grown in this area?

Should be increased considerably _____

Should be increased slightly _____

Should be decreased slightly _____

Should be decreased considerably _____

Reason for answer _____

_____

APPENDIX C

CALCULATION OF CHI-SQUARE

The chi-square test was used in order to obtain a basis for rejecting the hypothesis that response was independent of size group. For example, a portion of the data from Table 27, with appropriate calculations, may be used for illustration.

Observed and Expected Response to the Question, "Do you think contract growing will increase or decrease in this area?"

	Size group							
	Small		Medium		Large		All sizes	
Response	Observed	Expected	Observed	Expected	Observed	Expected	Observed	Expected
	Number of growers							
Increase	26	29.29	13	12.14	11	8.57	50	50.00
Decrease	15	11.71	4	4.86	1	3.43	20	20.00
Total	41	41.00	17	17.00	12	12.00	70	70.00

The expected values in the above table were calculated from the border totals of the observed values as follows:

(41)(50)/70 = 29.29; (41)(20)/70 = 11.71; (17)(50)/70 = 12.14;

(17)(20)/70 = 4.86; (12)(50)/70 = 8.57; (12)(20)/70 = 3.43

Next, the difference between the observed and the expected was derived as follows:

26 - 29.29 = -3.29; 13 - 12.14 = .86; 11 - 8.57 = 2.43

Then:

$$X^2_{2df} = \frac{(-3.29)^2}{29.29} + \frac{(-3.29)^2}{11.71} + \frac{(.86)^2}{12.14} + \frac{(.86)^2}{4.86} + \frac{(2.43)^2}{8.57} + \frac{(2.43)^2}{3.43} = 3.92$$

The resulting value of X^2 is not large enough to be significant at the 90 percent level, hence we cannot reject the hypothesis that response is independent of size group. Had the X^2 value been as large or larger than the tabular value of X^2 with 2 degrees of freedom for the 90 percent level or the 95 percent level, the hypothesis of independence would have been rejected and the conclusion drawn that response was dependent upon size group.

APPENDIX D

FEDERAL MARKETING AGREEMENTS AND ORDERS

Marketing agreements and orders are means through which certain marketing problems may be approached on a group basis by producers and handlers of a specified commodity within a particular geographical area.

The Secretary of Agriculture may enter into marketing agreements with processors, producers, associations of producers, and others engaged in handling any agricultural commodity in interstate or foreign commerce.[1] Marketing agreements are voluntary in nature and binding only on those individuals or agencies that actually sign the agreements.

Marketing orders differ from marketing agreements in that they provide for compulsory compliance by all dealers and handlers within a given geographical area. Only specified commodities (which includes potatoes) may be covered by a marketing order, whereas any commodity may be covered by a marketing agreement. A marketing order may be issued without a marketing agreement if, (a) the Secretary of Agriculture determines that failure of handlers to sign the marketing agreement tends to prevent carrying out the declared policy of the

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[1] Agricultural Marketing Service, Compilation of Statutes Relating to Marketing Activities, Including Research, Service, and Regulatory Work of the Agricultural Marketing Service, United States Department of Agriculture as of June 30, 1957 (Agricultural Handbook No. 130, U. S. Government Printing Office, Washington, D. C.)

Marketing Agreement Act, or (b) that the only practical means of advancing the interest of the producers is through issuance of an order. In the later case, the order cannot be issued unless either two-thirds of the producers vote in favor of the order or two-thirds of the total volume of the commodity produced in the specified area is grown by those producers voting in favor of the order.[2]

Usually, marketing orders are expected to evolve out of marketing agreements. With the exception as noted above, marketing orders cannot become effective until the handlers of not less than 50 percent of the commodity covered by the order have voluntarily signed a marketing agreement which regulates the handling of the commodity in the same manner as the order. After the handlers of 50 percent or more of the product covered by the proposed order have signed the marketing agreement, the Secretary of Agriculture may issue an order provided, (a) at least two-thirds of the producers vote in favor of the order, or (b) two-thirds of the total volume of the commodity produced in the specified area is grown by those producers voting in favor of the order.[3] Once issued, the order is binding on all handlers regardless of whether they signed the marketing agreement.

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[2] Ibid., p. 125.

[3] Ibid., p. 124.

APPENDIX E

HASTINGS AREA POTATO MARKETING QUESTIONNAIRE

Agricultural Extension Service

PROPOSAL

Please Check

Yes ____ No ____ 1. Have North Florida Potato Council operate for the purpose of representing this area in State and National matters of interest.

Yes ____ No ____ 2. Have North Florida Potato Council Marketing Committee meet twice a week, determine and announce remaining acreage to be dug.

Yes ____ No ____ 3. Have North Florida Potato Council Marketing Committee meet twice a week, determine and announce a recommended sales price.

Yes ____ No ____ 4. Have North Florida Potato Council amend its charter so it can act as a bargaining agency between growers and Chip Companies.

5. Organize a new grower association in this area:

Yes ____ No ____ (a) To serve as a bargaining agency with Chip Companies on price and contract terms.

Yes ____ No ____ (b) To serve as a central clearing house for the area to which copies of all sales invoices would be sent, and by which all collections for potatoes would be made.

Yes ____ No ____ (c) To serve as a central sales office for area in which salesmen for all handlers in the area would have a sales desk and all sales prices would be public information.

Yes ____ No ____ (d) To serve as a bargaining agency with growers and handlers in this area to greatly improve quality and pack of table stock potatoes and promote their sales in competition with those from other states.

6. Have a State Marketing Agreement law passed calling for a grower vote on:

Yes _____ No _____ (a) Hastings area potato advertising fund.

Yes _____ No _____ (b) All Florida potato advertising fund.

Yes _____ No _____ (c) Regulating grade size and pack on table trade potatoes.

Yes _____ No _____ (d) Regulating grade size and pack on potatoes going to Chippers.

Yes _____ No _____ (e) Limiting volume which growers dig or sell in any one day or week (by any one of several methods).

Yes _____ No _____ (f) Requiring price posting by all handlers with right for anyone to change minimum price by giving notice 24 hours in advance so all handlers would have notice of change.

7. Have a Federal Marketing Agreement with a grower vote on:

Yes _____ No _____ (a) Regulating grade size and pack on table trade potatoes.

Yes _____ No _____ (b) Regulating grade size and pack on potatoes going to Chippers.

Yes _____ No _____ (c) Limiting volume which growers dig or sell in any one day or week (by any one of several methods).

Yes _____ No _____ (d) Requiring price posting by all handlers with right for anyone to change minimum price by giving notice 24 hours in advance so all handlers would have notice of change.

8. Have state legislation passed requiring that:

Yes _____ No _____ (a) Seed potatoes shall be sold only for a definite cash price stipulated at the time of delivery to growers.

Yes _____ No _____ (b) Charges per hundredweight of potatoes for selling, brokerage, grading, sacks, etc., may not exceed a certain total amount for each service regardless of number of handlers or brokers concerned with a shipment or sale.

Yes _____ (c) All handlers and brokers of potatoes in
No _____ Hastings area must be licensed and bonded by State Department of Agriculture.

Yes _____ (d) A copy of all potato sale contracts if written,
No _____ or a report on them if verbal, must be filed at a State Department of Agriculture office in area by a certain date each year.

Yes _____ (e) The State Department of Agriculture shall issue
No _____ a summary report on all potato sales contracts in area by a certain date each year.

Yes _____ (f) The State Department of Agriculture shall act
No _____ as a bargaining agency for calling meetings and promoting discussion between chip companies, handlers and growers on contract terms and prices without anyone being in violation of federal anti-trust laws.

Yes _____ (g) The State Department of Agriculture shall act
No _____ as a coordinating agency for calling meetings of growers and handlers to determine and announce minimum sales prices on potatoes without anyone being in violation of federal anti-trust laws.

Yes _____ (h) The State Department of Agriculture office in
No _____ the Hastings area shall act as a clearing house and a copy of all sales invoices shall be taken there daily by a certain time, with a summary report on them to be issued by a certain time daily.

Yes _____ (i) Certain limitations on financing potato growers
No _____ in area must be complied with and all who finance potato growers must be licensed and their financial arrangements with growers reported.

Yes _____ (j) The State Department of Agriculture shall act
No _____ as an enforcement and auditing agency for requiring compliance with prices and regulations arrived at under 8 (a) to 8 (j) above.

(k) List other provisions you would like to see in such a State law.

_____

_____

Yes _____
No _____

9. Organize a new co-operative association and secure grower members in Florida, North Carolina, Virginia, Maryland, Delaware, New Jersey, Pennsylvania, New York, Maine, etc., all as stock-holders in order to finance and supply potatoes to a large Co-op potato chip plant to be located in Northeast United States.

10. Please list any other proposals you wish to have considered.

_____

_____

_____

APPENDIX F

TABLES

TABLE 56.--Specified Characteristics of Commercial Potato Operations, By Size of Farm, 93 Growers, Hastings Area, Florida, 1958.

Item	Size of farm[a]			
	Small	Medium	Large	All farms
Number of growers in sample	52	25	16	93
Average age of growers (years)	47	47	52	48
Average years experience in growing potatoes in the Hastings area	16	20	20	18
Cash crops other than potatoes in the 1957-58 season:				
Cabbage:				
Number of growers reporting	28	13	11	52
Total number of acres planted	638	584	1,122	2,344
Average number of acres per farm	23	45	102	45
Number of acres followed by potatoes	33	35	52	120
Other:				
Number of growers reporting	3	-	-	3
Total number of acres planted	26	-	-	26
Number of acres followed by potatoes	-	-	-	-
Total number of sample growers who were producing potatoes in:				
1957-58	52	25	16	93
1956-57	51	25	15	91
1955-56	47	25	15	87
1954-55	43	22	14	79
1953-54	42	21	14	77

[a] Acres planted in potatoes in 1957-58: Small, less than 100 acres; Medium, 100 to 249 acres; Large 250 acres or more.

TABLE 57.--Acres of Potatoes Planted and Harvested by Type of Potato and by Size of Farm, 93 Growers, Hastings Area, Florida, 1953-54 to 1957-58.

Season	Type of potatoes: White potatoes: Planted	White potatoes: Harvested	Red potatoes: Planted	Red potatoes: Harvested	All potatoes: Planted	All potatoes: Harvested
			Small farms			
1953-54	1,681	1,677	73	73	1,754	1,750
1954-55	1,800	1,800	97	97	1,897	1,897
1955-56	2,045	2,045	99	99	2,144	2,144
1956-57	2,318	2,299	186	186	2,504	2,485
1957-58	2,420	2,265	204	200	2,624	2,465
5-season average	2,053	2,017	132	131	2,185	2,148
			Medium farms			
1953-54	2,229	2,229	15	15	2,244	2,244
1954-55	2,425	2,425	45	45	2,470	2,470
1955-56	2,425	2,425	50	50	2,475	2,475
1956-57	3,239	3,209	109	105	3,348	3,314
1957-58	3,076	2,854	167	167	3,243	3,021
5-season average	2,679	2,628	77	76	2,756	2,705
			Large farms			
1953-54	3,964	3,964	140	140	4,104	4,104
1954-55	4,434	4,434	140	140	4,574	4,574
1955-56	4,603	4,603	190	190	4,793	4,793
1956-57	5,508	5,468	278	278	5,786	5,746
1957-58	5,536	5,064	401	351	5,937	5,415
5-season average	4,809	4,707	230	220	5,039	4,926
			All farms			
1953-54	7,874	7,870	228	228	8,102	8,098
1954-55	8,659	8,659	282	282	8,941	8,941
1955-56	9,073	9,073	339	339	9,412	9,412
1956-57	11,065	10,976	573	569	11,638	11,545
1957-58	11,032	10,183	772	718	11,804	10,901
5-season average	9,541	9,352	439	427	9,979	9,779

TABLE 58.--Volume of Potatoes Sold and Average Sales per Acre Harvested, by Type of Potatoes and by Size of Farm, 93 Growers, Hastings Area, Florida, 1953-54 to 1957-58.

Season	Type of potatoes: White potatoes: Total sales	White potatoes: Average per acre	Red potatoes: Total sales	Red potatoes: Average per acre	All potatoes: Total sales	All potatoes: Average per acre
			(Hundredweights)			
			Small farms			
1953-54	281,777	168	11,932	163	293,709	168
1954-55	302,845	168	16,427	169	319,272	168
1955-56	353,879	173	16,235	164	370,114	173
1956-57	334,510	146	27,692	149	362,202	146
1957-58	322,048	142	29,273	146	351,321	143
5-season average	319,012	158	20,312	155	339,324	158
			Medium farms			
1953-54	396,025	178	3,000	200	399,025	178
1954-55	450,555	186	9,000	200	459,555	186
1955-56	437,130	180	9,800	196	446,930	181
1956-57	508,760	159	17,430	166	526,190	159
1957-58	445,143	156	27,059	162	472,202	156
5-season average	447,523	170	13,257	174	460,780	170
			Large farms			
1953-54	700,240	177	26,300	188	726,540	177
1954-55	754,753	170	27,000	193	781,753	171
1955-56	824,280	179	36,610	193	860,890	180
1956-57	846,788	155	53,635	193	900,423	157
1957-58	787,724	156	61,527	175	849,251	157
5-season average	782,757	166	41,014	187	823,771	167
			All farms			
1953-54	1,378,042	175	41,232	181	1,419,274	175
1954-55	1,508,153	174	52,427	186	1,560,580	175
1955-56	1,615,289	178	62,645	185	1,677,934	178
1956-57	1,690,058	154	98,757	174	1,788,815	155
1957-58	1,554,915	153	117,859	164	1,672,774	153
5-season average	1,549,291	166	74,584	175	1,623,875	166

TABLE 59.--Number of Sample Growers Owning Mechanical Harvesters, Number of Harvesters Owned, Year of Purchase, Acres Harvested for Owners and Others, and Average Custom Rate Charged, by Size of Farm, Hastings Area, Florida, 1957-58.

Item	Size of farm			
	Small	Medium	Large	All farms
Number of growers owning mechanical harvesters	14	11	8	33
Number of mechanical harvesters owned:				
1-row machines	13	4	6	23
2-row machines	3	15	11	29
Total	16	19	17	52
Year purchased:				
1958	2	3	6	11
1957	1	9	1	11
1956	6	5	10	21
1955	4	-	-	4
1954	1	2	-	3
Unknown	2	-	-	2
Total	16	19	17	52
Number of acres harvested with mechanical harvesters in 1957-58 season:				
Owners' crops	766	1,346	2,072	4,184
Custom basis for others	205	288	100	593
Total	971	1,634	2,172	4,777
Average custom rate charged in cents per graded cwt.	36.2	42.5	37.5	38.1

TABLE 60.--Number of Sample Growers Owning Packinghouses and Selected Characteristics of Packing Operations, by Size of Farm, Hastings Area, Florida, 1958.

Item	Size of farm			
	Small	Medium	Large	All farms
Number of growers owning packinghouses:				
Sole ownership	-	6	11	17
Joint ownership	2	6	-	8
Total	2	12	11	25
Number of houses operated	2	10	13	25
Year house was built or acquired:				
1957	1	1	3	5
1956	-	2	-	2
1955	-	1	1	2
1954	-	2	1	3
1953	-	1	2	3
1952	-	1	1	2
1951	-	-	1	1
1950	-	-	1	1
1947	1	-	-	1
1944	-	1	1	2
1938	-	1	-	1
1936	-	-	2	2
Total	2	10	13	25
Number of houses equipped to handle bulk potatoes	1	7	9	17
Number of hundredweights received in bulk in 1957-58 season	17,500	252,336	287,550	557,386
Number of hundredweights packed in 1957-58	68,330	488,704	820,815	1,377,849
Average plant capacity (cwts. per hour)	225	300	413	353

TABLE 61.--Number of Sample Growers Obtaining Loans for Potato Production, by Source of Loan and by Size of Farm, Hastings Area, Florida, 1953-54 to 1957-58.

Size of farm and season	Source of loan					Combination of					All Sources
	PCA	Bank	Cooperative	Individual	Other	Bank and PCA	Bank and Ind.	Bank and Other	Coop. and Ind.	Coop. and Other	
Small farms											
1953-54	10	2	14	1	3	-	2	1	1	-	34
1954-55	11	3	13	2	4	-	1	1	1	-	36
1955-56	13	3	11	1	6	-	2	1	1	-	38
1956-57	17	1	11	4	6	-	-	2	1	-	42
1957-58	17	-	13	3	5	-	-	3	1	-	42
Medium farms											
1953-54	6	1	6	2	1	-	-	-	-	-	16
1954-55	8	1	5	2	-	-	-	-	1	-	17
1955-56	8	1	5	2	1	-	-	-	-	1	18
1956-57	9	1	5	2	-	1	-	-	-	-	18
1957-58	9	1	6	1	1	1	-	-	-	-	19
Large farms											
1953-54	2	2	1	-	-	-	-	-	-	-	5
1954-55	2	2	1	-	-	-	-	-	-	-	5
1955-56	2	2	1	-	1	-	-	-	-	-	6
1956-57	2	2	1	-	1	-	-	-	-	1	7
1957-58	3	3	2	-	1	-	-	1	-	-	10
All farms											
1953-54	18	5	21	3	4	-	2	1	1	-	55
1954-55	21	6	19	4	4	-	1	1	2	-	58
1955-56	23	6	17	3	8	-	2	1	1	1	62
1956-57	28	4	17	6	7	1	-	2	1	1	67
1957-58	29	4	21	4	7	1	-	4	1	-	71

TABLE 62--Volume of Credit Used by Sample Growers, by Source of Loan and by Size of Farm, Hastings Area, Florida, 1953-54 to 1957-58.

Size of farm and season	Source of loan					
	PCA	Bank	Cooperative	Individual	Other	All sources
			(Dollars)			
Small farms						
1953-54	103,082	17,758	267,997	10,991	32,666	432,494
1954-55	131,797	22,693	248,369	11,839	36,462	451,160
1955-56	153,636	25,433	208,705	16,446	46,476	450,696
1956-57	210,941	17,762	230,278	50,796	55,733	565,510
1957-58	215,491	15,887	269,141	40,016	60,307	600,842
Total	814,947	99,533	1,224,490	130,088	231,644	2,500,702
Medium farms						
1953-54	124,755	29,130	279,105	47,579	26,800	507,369
1954-55	204,525	29,774	273,440	67,208	-	574,947
1955-56	200,725	29,130	261,705	66,999	10,409	568,968
1956-57	275,552	57,563	263,436	188,566	-	785,117
1957-58	288,088	65,005	277,331	39,698	63,517	733,639
Total	1,093,645	210,602	1,355,017	410,050	100,726	3,170,040
Large farms						
1953-54	73,019	26,994	38,840	-	-	138,853
1954-55	74,632	33,544	39,698	-	-	147,874
1955-56	82,734	33,611	39,776	-	79,552	235,673
1956-57	85,477	54,464	62,406	-	149,397	351,744
1957-58	156,393	152,282	76,173	-	148,310	533,158
Total	472,255	300,895	256,893	-	377,259	1,407,302
All farms						
1953-54	300,856	73,882	585,942	58,570	59,466	1,078,716
1954-55	410,954	86,011	561,507	79,047	36,462	1,173,981
1955-56	437,095	88,174	510,186	83,445	136,437	1,255,337
1956-57	571,970	129,789	556,120	239,362	205,130	1,702,371
1957-58	659,972	233,174	622,645	79,714	272,134	1,867,639
Total	2,380,847	611,030	2,836,400	540,138	709,629	7,078,044

TABLE 61--Estimated Volume of Credit Used in Potato Production, by Source of Loan and by Size of Farm, Hastings Area, Florida, 1953-54 to 1957-58.[a]

Size of farm and season	Source of loan: PCA	Bank	Cooperative	Individual	Other	All sources
			(1,000 dollars)			
Small farms						
1953-54	363	63	943	39	115	1,523
1954-55	464	80	874	42	128	1,588
1955-56	541	90	735	58	164	1,588
1956-57	743	63	811	179	196	1,992
1957-58	759	56	947	141	212	2,115
Total	2,870	352	4,310	459	815	8,806
Medium farms						
1953-54	304	71	681	116	65	1,237
1954-55	499	73	667	164	-	1,403
1955-56	490	71	639	163	25	1,388
1956-57	672	140	643	460	-	1,915
1957-58	703	159	677	97	155	1,791
Total	2,668	514	3,307	1,000	245	7,734
Large farms						
1953-54	114	42	61	-	-	217
1954-55	116	52	62	-	-	230
1955-56	129	52	62	-	124	367
1956-57	133	85	97	-	233	548
1957-58	244	238	119	-	231	832
Total	736	469	401	-	588	2,194
All farms						
1953-54	781	176	1,685	155	180	2,977
1954-55	1,079	205	1,603	206	128	3,221
1955-56	1,160	213	1,436	221	313	3,343
1956-57	1,548	288	1,551	639	429	4,455
1957-58	1,706	453	1,743	238	598	4,738
Total	6,274	1,335	8,018	1,459	1,648	18,734

[a] Computed from Table 62.

TABLE 64.--Number of Contracts Held by Sample Growers from 1953-54 to 1957-58 and Selected Specifications of Contracts for the 1957-58 Season, by Size of Farm, Hastings Area, Florida.

Item	Size of farm			
	Small	Medium	Large	All farms
	(Number)			
Growers holding contracts:				
1953-54	-	-	-	-
1954-55	1	1	1	3
1955-56	1	1	2	4
1956-57	7	5	4	16
1957-58	12	7	4	23
Specifications of 1957-58 contracts:				
Quality of potatoes:				
U. S. No. 1, size A	10	4	1	15
U. S. No. 1	-	1	4	5
Percentage U. S. No. 1	1	2	-	3
Unspecified	1	-	-	1
Total[a]	12	7	5	24
Price per hundredweight:				
U. S. No. 1, size A:				
$2.50-$3.25	2	1	1	4
$2.50-$3.50	8	3	-	11
U. S. No. 1:				
$2.50-$3.25	-	-	2	2
$2.50-$3.50	-	-	1	1
$3.00 flat rate	-	1	1	2
Percentage U.S. No. 1:				
$2.00-$3.00	1	-	-	1
$3.00 flat rate	-	1	-	1
$4.50 flat rate	-	1	-	1
Unspecified quality:				
$2.90 flat rate	1	-	-	1
Total	12	7	5	24
Federal-State inspection	8	4	2	14
New bags	11	5	2	18
Bags furnished by grower	11	7	4	22

[a] One grower had two contracts.

TABLE 65.--Distribution of Sample Growers by Type of Handler and Size of Farm, Hastings Area, Florida, 1953-54 to 1957-58.

Type of handler and season	Size of farm			
	Small	Medium	Large	All farms
Grower-handlers:				
1953-54	1	4	5	10
1954-55	2	4	5	11
1955-56	3	4	4	11
1956-57	3	4	4	11
1957-58	3	4	4	11
Cooperative:				
1953-54	24	8	1	33
1954-55	21	8	1	30
1955-56	20	8	1	29
1956-57	22	6	-	28
1957-58	23	6	-	29
Other agents:				
1953-54	15	8	3	26
1954-55	15	7	3	25
1955-56	20	9	4	33
1956-57	22	9	5	36
1957-58	20	9	5	34
Combination:				
Grower-handler and Cooperative:				
1953-54	1	-	1	2
1954-55	2	2	1	5
1955-56	2	3	1	6
1956-57	1	4	1	6
1957-58	-	4	2	6
Grower-handler and other agents:				
1953-54	-	-	3	3
1954-55	-	-	3	3
1955-56	1	-	4	5
1956-57	1	-	2	3
1957-58	1	1	2	4
Cooperative and other agents:				
1953-54	1	1	1	3
1954-55	3	1	1	5
1955-56	1	1	1	3
1956-57	2	2	3	7
1957-58	4	1	3	8

TABLE 66.--Distribution of Total Sales Volume, by Type of Handler and by Size of Farm, All Sample Growers, Hastings Area, Florida, 1953-54 to 1957-58.

Year and Type of Handler	Size of farm			
	Small	Medium	Large	All farms
	(Hundredweights)			
1953-54				
Grower-handler	12,450	99,550	404,843	516,843
Cooperative	190,468	158,230	92,090	440,788
Other agents	90,791	141,245	229,607	461,643
Total	293,709	399,025	726,540	1,419,274
1954-55				
Grower-handler	25,219	123,932	444,691	593,842
Cooperative	193,946	191,738	89,990	475,674
Other agents	100,107	143,885	247,072	491,064
Total	319,272	459,555	781,753	1,560,580
1955-56				
Grower-handler	22,192	143,346	471,061	636,599
Cooperative	198,870	180,689	100,055	479,614
Other agents	149,052	122,895	289,774	561,721
Total	370,114	446,930	860,890	1,677,934
1956-57				
Grower-handler	27,649	126,606	427,383	581,638
Cooperative	197,145	177,486	86,725	461,356
Other agents	137,408	222,098	386,315	745,821
Total	362,202	526,190	900,423	1,788,815
1957-58				
Grower-handler	29,522	137,802	408,439	575,763
Cooperative	187,266	159,874	105,918	453,058
Other agents	134,533	174,526	334,894	643,953
Total	351,321	472,202	849,251	1,672,774
All years				
Grower-handler	117,032	631,236	2,156,417	2,904,685
Cooperative	967,695	868,017	474,778	2,310,490
Other agents	611,891	804,649	1,487,662	2,904,202
Total	1,696,618	2,303,902	4,118,857	8,119,377

TABLE 67.--Total Volume of Grower-Handler Sales by Type of Buyer and by Size of Farm, 93 Sample Growers, Hastings Area, Florida, 1954, 1957, and 1958.

Year and type of buyer	Size of farm			
	Small	Medium	Large	All farms
	(Hundredweights)			
1954				
Type of buyer:				
Trucker	-	-	38,455	38,455
Chain store	-	23,000	117,055	140,055
Wholesaler	1,260	606	115,377	117,243
Processor	2,100	52,694	124,149	178,943
Other	9,090	23,250	9,807	42,147
Total	12,450	99,550	404,843	516,843
1957				
Type of buyer:				
Trucker	-	5,810	50,740	56,550
Chain store	-	26,785	106,820	133,605
Wholesaler	2,362	2,946	93,663	98,971
Processor	17,380	71,131	161,872	250,383
Other	7,907	19,934	14,288	42,129
Total	27,649	126,606	427,383	581,638
1958				
Type of buyer:				
Trucker	-	4,253	33,574	37,827
Chain store	-	16,931	50,138	67,069
Wholesaler	802	3,351	124,823	128,976
Processor	20,560	97,380	183,391	301,331
Other	8,160	15,887	16,513	40,560
Total	29,522	137,802	408,439	575,763

TABLE 68.--Estimated Volume of Grower-Handler Sales by Type of Buyer and by Size of Farm, Hastings Area, Florida, 1954, 1957, and 1958.[a]

Year and type of buyer	Size of farm			
	Small	Medium	Large	All farms
	(Hundredweights)			
1954				
Type of buyer:				
Trucker	-	-	59,990	59,990
Chain store	-	56,120	182,606	238,726
Wholesaler	4,435	1,479	179,988	185,902
Processor	7,392	128,573	193,672	329,637
Other	31,997	56,730	15,299	104,026
Total	43,824	242,902	631,555	918,281
1957				
Type of buyer:				
Trucker	-	14,176	79,154	93,330
Chain store	-	65,355	166,639	231,994
Wholesaler	8,314	7,188	146,114	161,616
Processor	61,178	173,560	252,520	487,258
Other	27,833	48,639	22,289	98,761
Total	97,325	308,918	666,716	1,072,959
1958				
Type of buyer:				
Trucker	-	10,377	52,375	62,752
Chain store	-	41,312	78,215	119,527
Wholesaler	2,823	8,176	194,724	205,723
Processor	72,371	237,607	286,090	596,068
Other	28,723	38,764	25,760	93,247
Total	103,917	336,236	637,164	1,077,317

[a] Computed from Table 67.

TABLE 69.--Distribution of Volume of Sales, by Type of Buyer and by Grade and Size, Seven Selling Agencies, Hastings Area, Florida, 1957 and 1958.

Year, grade and size	Type of buyer					
	Retailer	Processor	Wholesale receiver	Local buying broker	Other	All buyers
	(Hundredweights)					
1957						
U. S. No. 1:						
Size A	450,222	407,034	396,120	226,602	50,109	1,530,087
Size B	9,860	44,851	38,983	10,315	36	104,045
Percentage U. S. No. 1	9,793	64,794	52,397	79,999	380	207,363
Utilities	22,977	75,983	92,200	77,672	2,029	270,861
Creamers	-	26,290	2,758	3,488	-	32,536
All grades & sizes	492,852	618,952	582,458	398,076	52,554	2,144,892
1958						
U. S. No. 1:						
Size A	169,381	321,760	233,772	269,090	49,126	1,043,129
Size B	8,630	26,141	29,541	28,047	4,606	96,965
Percentage U. S. No. 1	10,089	76,756	84,167	79,196	75,207	325,415
Utilities	4,711	20,401	14,744	36,350	1,654	77,860
Creamers	-	54,463	5,756	6,811	-	67,030
All grades & sizes	192,811	499,521	367,980	419,494	130,593	1,610,399

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BIOGRAPHICAL SKETCH

Paul Titus Blair was born December 18, 1922, at Gattman, Mississippi. He graduated from Hamilton High School in 1940. Mr. Blair served in the Army from 1943 until 1948. He served in Europe during World War II and currently holds the rank of Chief Warrant Officer in the Army Reserves.

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This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Agriculture and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August 12, 1961

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